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ABSTRACT

Developed to provide an understanding of the magnitude of the role of corn, referred to as Mother Corn in the cultures of the Seneca, Pawnee, and Hopi tribes, the student text provides information on the tribes' basic lifestyles and the way they grew and used corn in three different parts of the United States. The section on the origin of corn provides an historical background on corn, including where it comes from, the mystery of its origin, how it grows, what it needs to grow, and where to get Native corn seed. Each tribe's section includes: (1) a description of their environment, home, livelihood, and lifestyle; (2) various methods used to prepare their fields, plant, harvest, and store their corn; and (3) short stories about the life of that tribe before European contact. Additionally, the text provides a U.S. map showing tribes that use corn, traditional legends, games, songs, chants, and corn recipes from the Pawnee, Hopi, Seneca, and other tribes. A glossary of terms and a bibliography conclude the guide. (AH)

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Our Mother Corn

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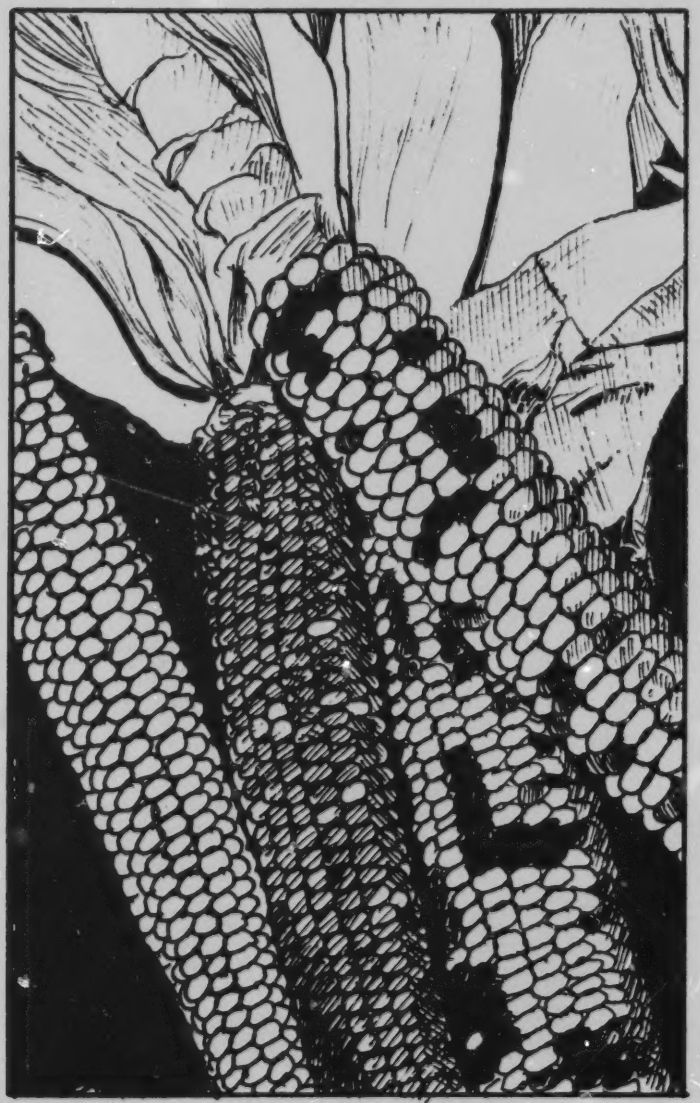
INTRODUCTION



The Pawnee and Hopi tribes call the tall, life giving plant "Mother Corn." The Seneca tribe say that corn and woman are one - the mother - for both give life and care for the people. Many other Native American cultures also believe corn is a most important plant, for they owe their lives to it. Long ago it was their main food or staple. Without successful corn crops families and villages could go hungry. Many people would then grow weak from hunger and starve.

Corn was a central focus of life for the tribes that depended on it. Special prayers, chants, songs, dances and ceremonies honored and gave thanks for corn.

Farmers in all countries and in all times have prayed for their crops and sung songs about them the same way they pray for their children, for without good crops there is no life.

Today many old-time farmers still sing as they work. The Navajo's Farm Songs are poems and prayers. They celebrate the beauty of planting and bring good thoughts to the farmer.

I wish to plant.
In the middle of the wide field
I wish to plant.
White corn, I wish to plant.
With soft goods and hard goods,
I wish to plant.
The good and everlasting corn
I wish to plant.

My corn is arising.
My corn is continually arising.
In the middle of the wide field
My corn is arising.
White Corn Boy he is arising.
With soft goods my corn is arising.
Good and everlasting ones they are arising.

My corn loves me.
In the middle of the wide field
My corn loves me.
White Corn Boy he loves me.
With soft goods my corn loves me.
With hard goods my corn loves me.
Good and everlasting ones they love me.

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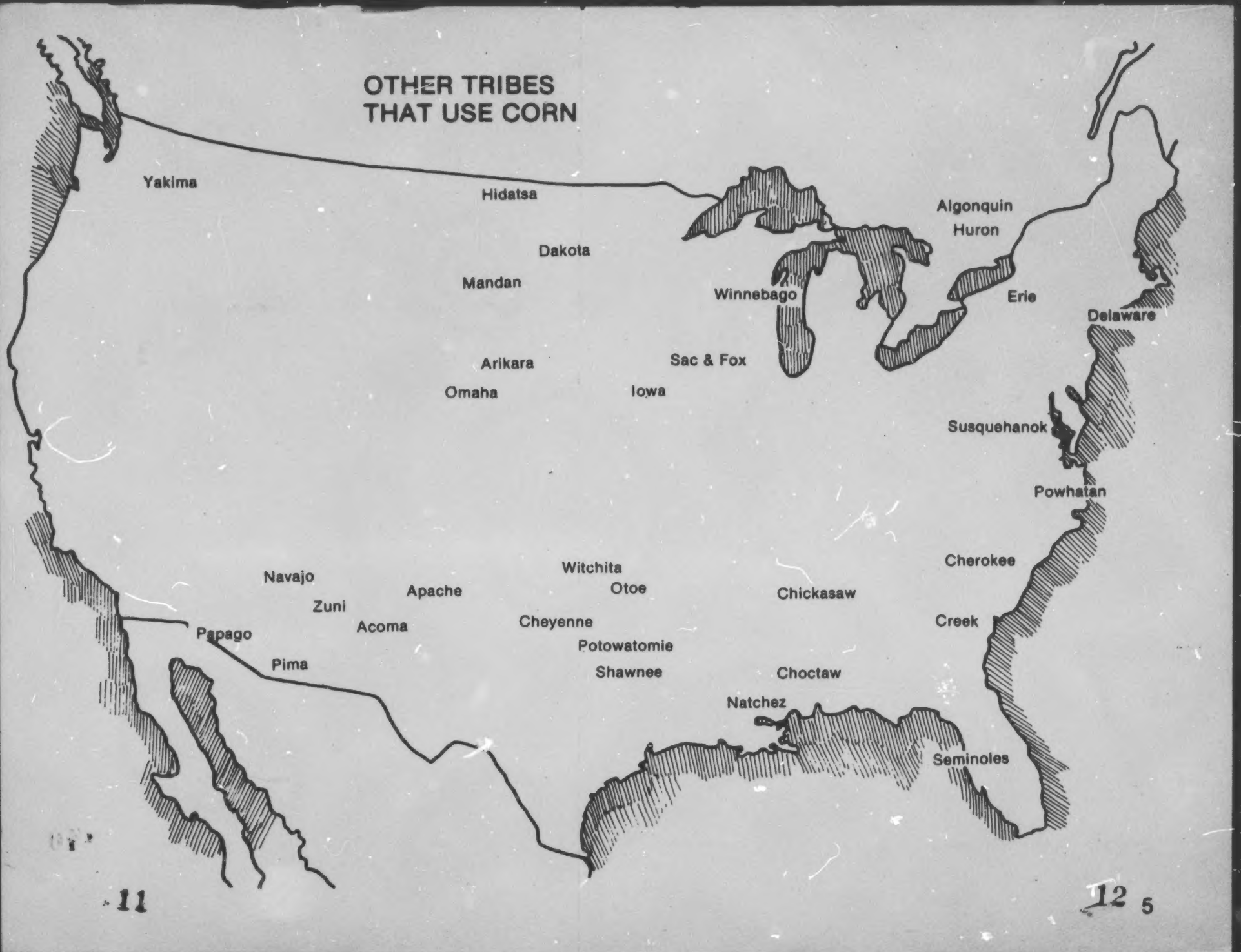
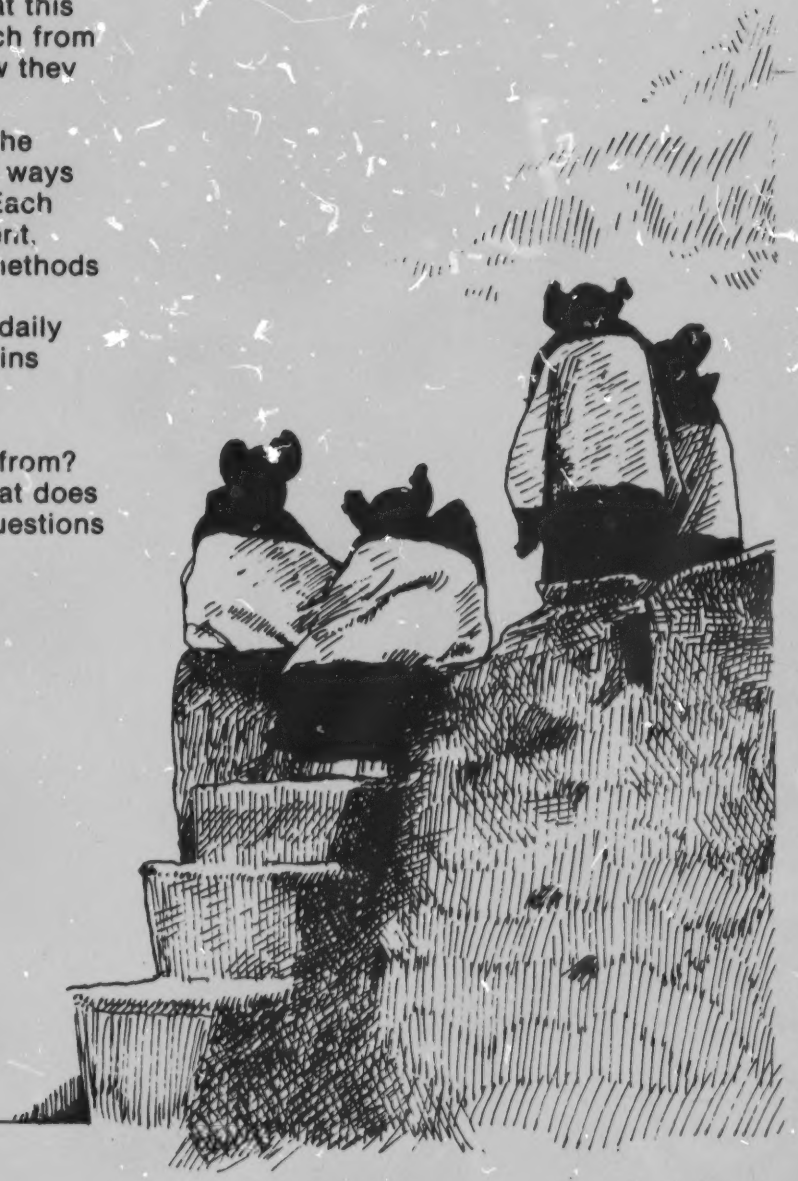

OTHER TRIBES
THAT USE CORN
Yakima
Hidatsa
Dakota
Mandan
Algonquin
Huron
Winnebago
Erie
Delaware
Arikara
Sac & Fox
Omaha
Iowa
Susquehanok
Powhatan
Witchita
Navajo
Apache
Otoe
Cherokee
Chickasaw
Zuni
Acoma
Cheyenne
Creek
Papago
Potowatomie
Pima
Shawnee
Choctaw
Natchez
Seminoles

Today the Hopi, Papago, Seneca, Navajo and many other Native American Peoples grow corn and depend on it to feed their families. Many raise and use corn in the same way their ancestors did.

Mother Corn and the Pawnee, Hopi, and Seneca tribes-- that is what this book is all about. We're going to discover how these three tribes, each from a different part of the United States, lived with corn long ago and how they live with it today.

To understand something about the role of corn in the cultures of the Seneca, Pawnee and Hopi we'll consider their basic lifestyles and the ways they grew and used corn. We will read about the tribes separately. Each tribe's section will start out with a brief description of their environment, home, livelihood and lifestyle. Then we will learn about the various methods used to prepare their fields, plant, harvest, and store their corn. Each section will end with a short story which gives a glimpse of the daily life of that tribe before European contact. The rest of the book contains traditional legends, games, songs, chants and corn recipes from the Pawnee, Hopi, Seneca and other tribes.

But first we need to know more about corn. Where did corn come from? Has anyone solved the mystery of its origin? How does it grow? What does it need to grow well? You can look for answers to these and other questions as you turn to the ROOTS OF IT ALL.



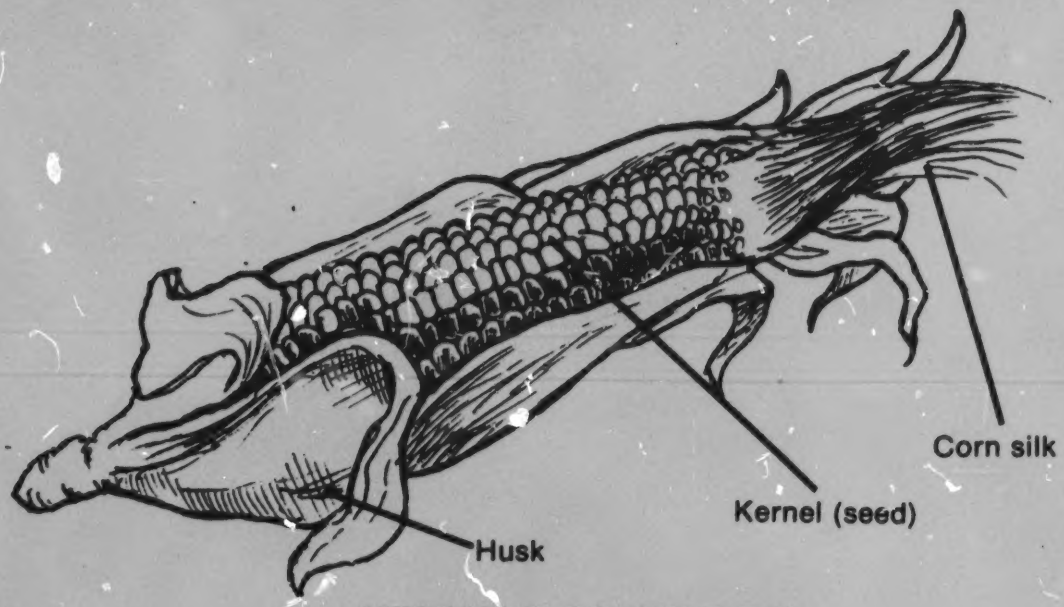
THE ROOTS OF IT ALL
(The Origin of Corn)

Thousands of years ago, most likely in a tropical area in Mexico, a wild grass related to corn was planted and cared for by Indian people. Those people probably selected seeds from the largest and highest quality plants to cultivate, and gradually over time corn or *Zea Mays* was developed. The cultivated corn lost the covering over each seed that its wild relative had. It also lost its ability to reproduce without the help of people or other animals. This means that the corn seeds, or *kernels*, cannot simply fall to the ground and sprout new plants. The seeds have to be taken off the *ear* and covered with soil.

Because corn was easy to grow and could be stored for a long time, it became a very important source of food. It also became a valuable trade item and quickly passed to many tribes over the United States. Mandan, Choctaw and other Indian tribes developed a wide varieties of corn. Some corn is eaten fresh from the cob like the sweet corn that is available at the market. This corn is in its milky or early stage. It is not ripe yet. Other corn that is fully hard and mature is ground into meal or flour. Popcorn was being grown and popped by Pueblo, Zuni and other Indian people thousands of years before the first movie theaters tempted audiences with it.

When we picture corn in our minds we think of yellow or maybe white corn. But tribes like the Mandans and Hurons grew many other solid-colored corn. Corn colors range from orange to maroon to purple and even to black. Also grown are speckled corn and corn that has several colors on one cob. This colorful corn is called calico corn.

The exact origin of corn remains a mystery. But there can be no doubt that it played a central role in the development of the Americas. Corn is not only considered "She Who *Sustains* Us," "Our Mother" and "Our Life" by various Native American tribes, but also it was responsible for saving the lives of many early European settlers who might otherwise have starved. From its beginnings in some warm, wet region of the New World, corn has spread to the deserts of the Southwest, the cold northeastern United States and to many other places around the world.



KERNELS OF WISDOM

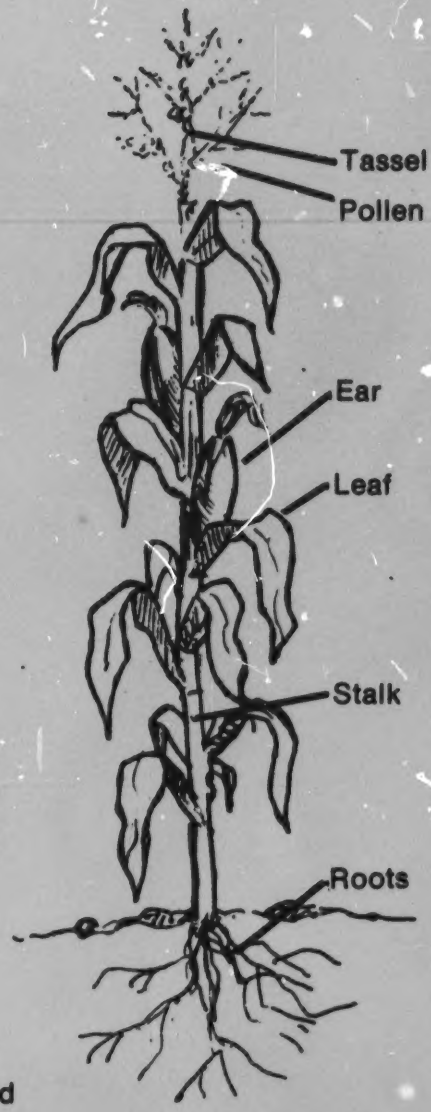
(The story of corn pollination and fertilization .)

Each corn plant has both male and female flowers. The male flowers produce *pollen* and grow on the *tassel* at the top of the plant. The female flowers grow lower on the plant on structures which later become ears of corn covered by *husks.* Parts of the female flowers appear as slender threads known as *corn silk* and stay on the ear of corn even after the corn has ripened.

When the flowers are mature, pollen from the tassel is blown by the wind to the corn silk, where it sticks. This process is called *pollination.* Sometimes pollen from one plant lands on its own silk and this is known as *self-pollination.* When pollen lands on the silk of another corn plant, *cross-pollination* occurs.

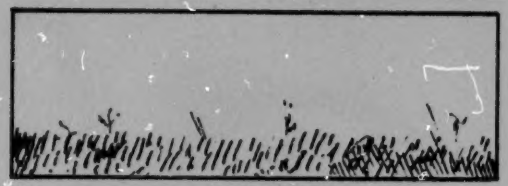
When conditions are right, a tube grows from the pollen grain along the corn silk, and *fertilization* takes place with the joining of the male and female *reproductive cells.* This begins the growth of a kernel of corn.

Because the kernels are surrounded by a husk, they cannot drop to the ground and sprout new plants. In order for the corn seeds to reach the ground, the husk must be removed by humans or other animals and the seed or kernels scattered over the soil.



STALKING THE ANSWER

(What does corn require to grow?)



Most types of corn need lots of water, rich soil and hot sun. Corn plants take a great deal from the soil including *nitrogen, phosphorus, potassium* and other *nutrients.* Fields that have been growing corn for years become exhausted and can no longer grow successful crops.

Many Indian tribes allowed their fields to lie fallow, or unused, for several years while they planted their crops in other fields. This is called *field rotation.* During this time wild plants would grow back in the old unfarmed fields. Usually the first plants to grow in the abandoned fields were *nitrogen fixing plants* or plants that are able to add nitrogen to the soil. The nitrogen enriches the soil so that many other types of plants can grow there. Soon insects and small mammals would be attracted to the fields because the wild plants would provide food and hiding places. Larger animals would come to hunt for mice, rabbits and other small animals in these old corn fields. The fields became natural *habitats* for a whole chain of plants and animals. The seasons passed with the life and death cycles of this chain. Through natural loss and decay of plant and animal bodies, nutrients were returned to the soil. After a few years the fields would again be ready for the tribe's corn seed.

Here's a TASSEL HASSLE!!! Why did Indian farmers use companion planting and crop rotation?

Clue one: Many tribes plant beans and corn together in the same fields. This is called *companion planting.*

Clue two: Some tribes rotate their crops to different fields each year. A Cherokee farmer, for example, may have three fields. Corn, beans, and squash are planted in one field, tobacco and sunflowers in another field, and small plants like tomatoes and peppers in the last field. The following year the same fields are used but the crops are rotated or switched. This is called *crop rotation.*

Clue three: LOOK UP beans, crop rotation and companion planting in an organic gardening book or encyclopedia to find out . . . .

WHY INDIAN FARMERS USED COMPANION PLANTING AND CROP ROTATION!!!

Do you want to grow some *native* corn? Where could you get the corn seed?

LOOK HERE!!

You can contact the Hopi, Pawnee and Seneca tribes:

Hopi Agency
Keams Canyon,
Arizona 86043

Pawnee Agency
Pawnee, Oklahoma
74058

Special Liason Rep.
For the Seneca Nation
P.O. Box 500
Salamanca, NY 14779

These three Hopi women raise and sell blue, red and white corn.

Marian Tewa
New Oraibi, Arizona
86039

Ada Fredricks
New Oraibi, Arizona
86039

Elsie Nahshonhoya
Polacca, Arizona
86042

Calvin Lay, a Seneca man raises and sells Seneca white corn. His address is: Box 517, Gowanda, New York 14070. He sells 1 quart for $2.00.

Be sure to explain, in your letters to these people, that you want corn seed to plant because they also sell processed corn to eat.

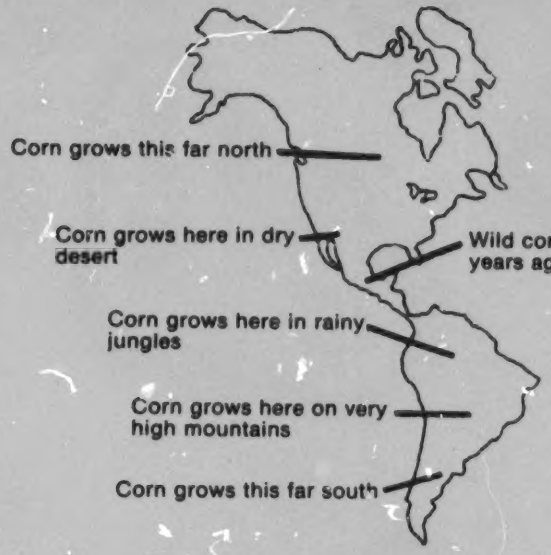
The following organizations also have native corn seed available:

Abundant Life Seed Foundation
P.O. Box 772
Port Townsend, WA 98368
phone (206) 385-5660

These folks have: Hopi Blue
Black Aztec
Mandan Bride

Other types of native corn from all over the United States are available for return of seed ears from expected harvests. These seeds will be used to increase the foundation's seed bank.

Southwest Tradition Conservancey Garden and Seed Bank
c/o Meals for Millions
Attn. Gary Nabham
715 North Park
Tucson, Arizona 85719


Corn grows this far north
Corn grows here in dry desert
Wild corn grew here 7,000 years ago
Corn grows here in rainy jungles
Corn grows here on very high mountains
Corn grows this far south

FARMING NOTES

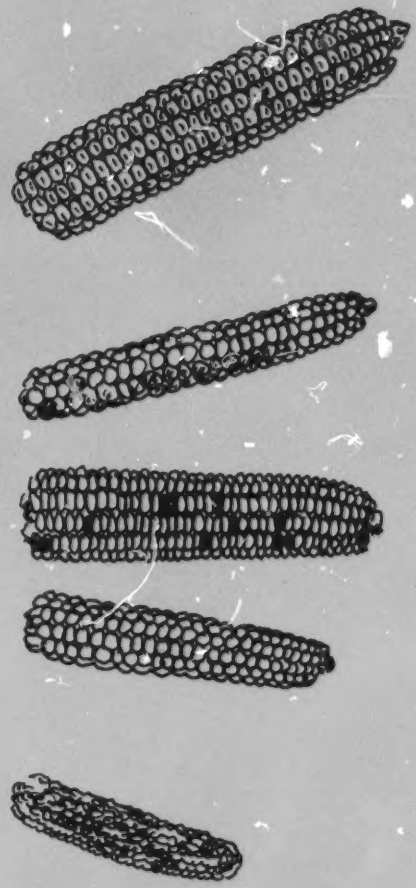
Seeds

The tallest corn grows in Mexico. Farmers ride horses to harvest ears two feet long. The smallest ears of popcorn are only the size of a man's thumb.

Navajo and Hopi farmers have seed that can be planted much deeper than most corn. They have this special seed because of the way Indian farmers for thousands of years have chosen which seeds to plant.

They have always saved the seeds from plants that grow best in their own fields. They choose from plants that grow the most ears, the best ears, and which are strongest against bugs and disease. Mountain farmers have saved seeds from the plants that grow quickest in the short summers. Desert farmers have saved seed that grows best from deep planting. From year to year the corn has slowly changed. In this way more than 300 different kinds of corn have been made. Each kind grows best in its own place.

Five Main Kinds of Corn



Dent Corn: The Indians in the Southeastern states grow dent corn. It is called "dent" corn because the dry seeds have dents in them. Most of the corn in livestock feed today is a kind of dent corn that is also part flint corn.

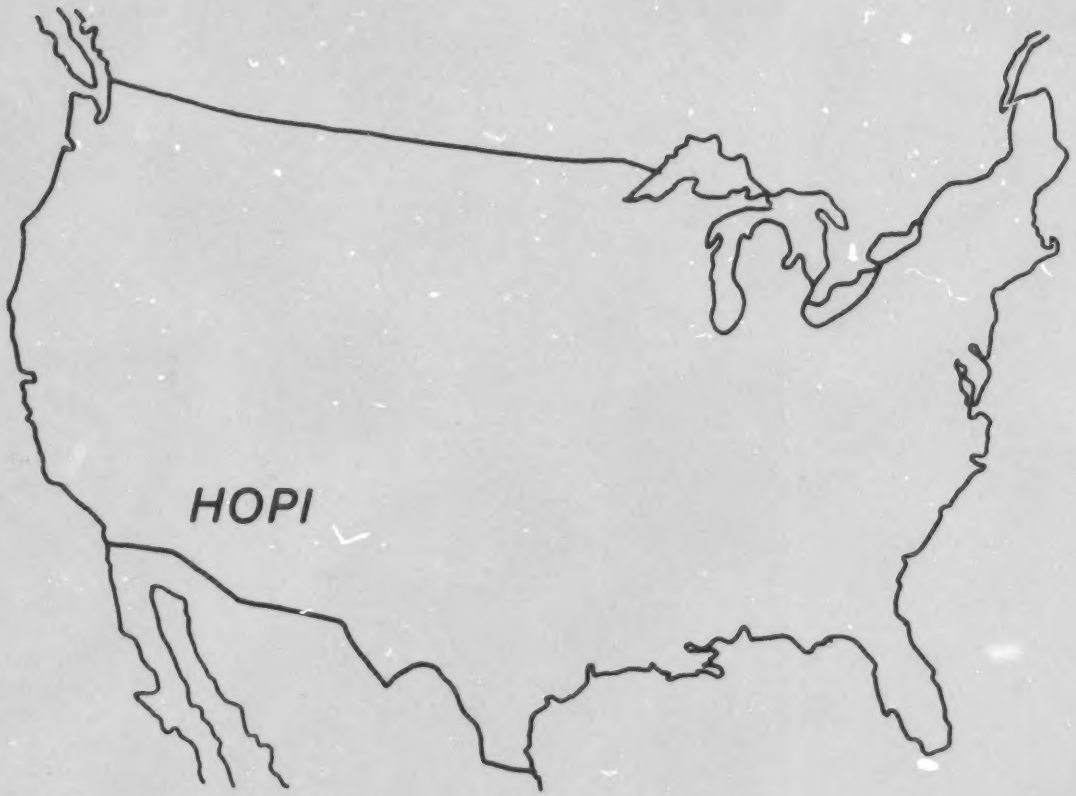
Flint Corn: Flint corn was the main crop of Indians in the Northeastern states. Their corn usually has eight rows of seeds on each ear. The seeds are very hard. The name "flint" comes from a hard rock called flint.

Flour Corn: It is called "flour" corn because it is easy to grind.

Sweet Corn: The corn you buy in the supermarket is sweet corn. Indians in many parts of the country have grown different kinds of sweet corn since long ago.

Pop Corn: The oldest corn ever found in the United States was popcorn that was buried in a cave in New Mexico nearly 4,000 years ago. It could still be popped! Many kinds of popcorn grow in North and South America.

Adapted from Navajo Farming by Sam and Janet Bingham, Rock Point Community School, 1979.


HOPI

HOPI LIFESTYLE

The Hopi lived, and in many areas still live, in apartment-like stone houses called pueblos, built along cliffs. They live among arid mountains, rugged canyons and deserts where much of the year no rain falls. When it finally comes, it often floods. Sometimes scorching hot days are followed by chilling nights. In spite of such a harsh environment the Hopi tribe has lived here for over one thousand years.

By 1540, when the first Europeans, the Spanish, came to the Southwest to explore, the Hopi were well established in their villages with a population of over 10,000. Their society was as complex as that of the Spanish. It included religion, the practice of medicine, multiple housing, arts and handicrafts, domesticated animals and agriculture.

The Hopi reservation is located between the Lukachukai Mountains and the San Francisco Peaks. It spreads out over the First Mesa, Second Mesa and Third Mesa in northeastern Arizona. A few isolated ranchers live out on the plateaus but most Hopis live on the mesas in villages. A typical older pueblo home has walls made of stone and mud. Its floor is packed clay, sprinkled with water and polished with stones. It has three main rooms - living room, sleeping areas and kitchen. The women own and rule these houses, while the men own the "kivas"—special dwellings used for men's social activities and religious ceremonies.

Among the Hopi, people are related to each other through their mothers. Boys and girls belong to their mother's clan, and men move into their wives' homes when they marry. When homes get too crowded, more rooms are added or another house is built nearby.

The Hopi have always been a farming people, growing large quantities of vegetables. They also gathered more than two hundred species of plants, which are still used for medicine, industry and food. Hunting was considered sacred. Certain rituals were required before animals could be killed. Though meat was eaten, it was not as important as corn and other vegetables in the overall diet.

The men hunted and cultivated the field crops. They spun cotton, other plant materials and wool. These were used to weave clothing, rugs, and whatever else was needed. Men also made and carved kachina figures. Women cultivated small gardens. They ground corn daily and did all the cooking for the large families. Dyeing the thread woven by the men was one of the women's tasks. They made dyes from native plants and other natural things in the area. Beautiful pottery and basketry were the handicrafts of the women and each mesa had its own specialty. The elders were the highly respected historians of the tribe. They also had a very important role in rearing young children and helping out in many other ways.

Hopi children were loved and cared for but they were not spoiled. The children had ample time to play but they learned their adult roles at an early age. Fathers would take their sons on long trips down the cliffsides to learn farming and hunting. Young girls learned the work of women by watching and copying their mothers and grandmothers.

Though life has changed for today's Hopi, many of the old ways are still practiced. The Hopi, whose name means "peaceful, good and happy," still center their lives on their centuries-old religion. This includes morning and evening prayers and participation in many seasonal ceremonies. Doing these things will help a person stay in balance with nature - a very important goal to Hopi people. "To live a balanced life a good Hopi is:

1. Strong (physically and morally)
2. Poised (free of anxiety, tranquil, concentrated on "good thoughts")
3. Law abiding (responsible, cooperative, unselfish, kind)
4. Peaceful (not quarrelsome or aggressive, modest)
5. Protective (respectful of *all* life, preserving and promoting people, plants and animals)
6. Healthy (free from illness)" *

Adapted from a manuscript by Laura Thompson, *anthropologist and co-author of* The Hopi Way.

You can write to the Hopi Tribe by sending a letter to:

Hopi Tribal Council
Oraibi, Arizona
86039
phone (602) 734-2441

HOPI CULTIVATION AND PREPARATION

Each Hopi farmer has several small fields in different locations. Some corn is planted along dry creek bottoms but this corn may be destroyed by flooding from heavy rains. Other fields are planted at the bottom of cliffs where water seeps down from above. But the most common are fields planted in the sand dunes.

The fields are usually prepared in February. The Hopi clear the brush and weeds with rakes made from juniper branches. These sturdy rakes have three forks, which are sharpened and tied to a crosspiece to make them stronger. Another ground clearing tool, called a *wikya,* is used to break and stir the soil. When the plots have been cleared and the ground broken up, the fields are ready for planting.

Planting is usually done in April or May. The main planting tool is a digging stick made from ironwood or oak. One end is rounded and the other is pointed or wedge-shaped for poking holes into the soil. Holes are made

every five feet. Hopi corn is an ancient and unusual strain of corn that grows well in a desert environment. To grow successfully, 4 to 8 seeds must be planted deeply enough to reach water and germinate. Sometimes this will be as deep as 9-18 inches! Then the seedlings must produce shoots strong enough to reach the sunlight and grow Deep planting also helps the corn plants grow a strong root system. These roots help the plant to withstand the wind and get moisture from the soil below the hot sand.

The planting is usually done by the men, older boys and children. Often the families work together. Each day the planters work in a different family's field. While they are preparing the soil and planting, the women and older girls are cooking a big feast to be enjoyed when the work is done. The planters will go from family to family until all the fields are planted.

Other vegetables like squash, several types of beans, melons, pumpkins and gourds are often planted in separate fields. Small orchards of apricot trees are also grown. The crops are protected from shifting sand and wind by windbreaks made of brush held in place with rocks. Even so, the wind can still destroy many plants, and field mice and cutworms may destroy still others. Perhaps only half of the plants might be expected to survive until harvest season. During the summer the Hopi men and boys care for the corn in the faraway fields, sometimes travelling miles in the scorching summer heat. The fields nearer the village are watched by the women who can water them when needed. The Hopi use hoes to keep their fields weeded. The hoe blades were once made from stone and wood until metal became available from the Spaniards and Mexicans.

The tallest Hopi corn grows up to about four feet tall. Many of the varieties have ears of different colors including white, blue, red, yellow, and speckled. Some ears are harvested and roasted while they are still green. This corn is often baked in jug-shaped pit ovens right out in the fields. The ears of corn which are not eaten are strung up to dry in the sun on rooftops and around the pueblos. While the corn is drying it must be turned often. The women trim off the husks, and bundle and tie them with yucca or husk strips to be used for cooking containers later. The husked ears are sorted by color and stacked like firewood in colorful rows in the yards while the storage bins are readied. All the old corn is removed so that the bins can be cleaned and plastered. The old corn is not thrown out but placed in the bins last so that it will be used first. A one- or two-year supply of corn is kept in storage in case of crop failure.

Much of the dried corn is ground into cornmeal. Since Hopi women prepare more than thirty different corn dishes that often use cornmeal, it is important to have cornmeal on hand at all times. Most kitchens have grinding areas

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Interior of a Hopi pueblo

where the corn is prepared. The traditional method of grinding uses a stone called a *"mano"* to mash the kernels against a rough slab of stone called a *"metate."* There are usually at least three metates - side by side - one for very coarse meal, another for medium-ground meal and a third for fine meal or flour.

Hopi girls begin learning the art of grinding corn at a young age from grandmothers and mothers. Corn grinding is often a social occasion; a group of women and girls gather to work together as their old uncles or grandfathers sing grinding songs to them. The first woman "breaks up" or cracks the corn. The cracked corn is handed over to the person at the next metate. There she grinds it down on her rough metate. Then she hands the cornmeal over to the next woman to be ground down finer. Together they work like this for three or four hours straight, grinding to the rhythms of the men's songs, until there are large piles of cornmeal and corn flour.

Above the grinding areas were built special shelves for storing the cornmeal. Everyone could see how much was stored. A young girl's work was judged by how much cornmeal was in her home. Some Hopi women use stones to grind corn today which have been handed down for many generations.

Other utensils in the Hopi kitchen might include: stone mortars and pestles, sturdy greasewood stirring sticks, baskets for winnowing and sifting, and corn husks for food wrappers or cooking containers. There is another special cooking area set aside for making *"piki"* bread. This place may be in the kitchen or in a small piki house.

Piki is a delicious, paper-thin cornbread that was once the Hopi's staple. It can be eaten alone or dipped into soups. Piki is made on a greased slab or sandstone called a *"duma."* The duma or "piki stones" are hard to get. They must be a certain size and shape, are very smooth and take a long time to prepare. Most piki stones are passed down from one generation to the next.

HOPI CORN GRINDING SONGS

Paul Enciso, a Taos Pueblo and Apache man, is a well known artist and craftsman. In Marcia Keegan's book, *Pueblo and Navajo Cookery*, Paul talks about the importance of corn and the grinding songs, which Hopi men sing to the women while they grind corn.

"The grinding song may tell you first of all that what you're handling is very sacred, and that you've got to put yourself in tune with that spirit of what you're doing, so it doesn't become a chore to you, but it becomes part of you. You're creating something, you're doing something. And what you must do is master it, so that as you begin, and the rhythm begins to flow through you, you just begin that feeling, and after you're through with grinding, then the feeling goes on to the person at the next stone, who grinds the corn down a little bit more, and a little bit more. And a lot of times stories are told that remind you of life itself, how you must go through life, how you must walk, just like the corn has come up from the stalk, and also be thankful, not only to Mother Earth and to Father Sky, and also to the sun for what it provides, but also to the Creator of All for creating these things. He has prepared the corn for us to one stage, and now we prepare it in different stages for our own use. And this is why we must be thankful. Because eventually what comes from the ground goes back to the ground, and we just keep exchanging, and so it shows our gratefulness for all this, the cycle. The cycle is never broken. It's an eternal thing, and the grinding song makes us a part of it."

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The following is a short story about a Hopi woman grinding corn.

MUSIC OF THE MANO AND METATE

Taiyomana lifted the mano stone and mashed a handful of corn against the rough stone metate. The mano seemed so much lighter now than when she had first lifted it as a little girl. The stone was worn smooth. It had ground more corn than could ever be stored in her pueblo home, for it had first belonged to her grandmother's grandmother and had been passed down through five generations. Taiyomana looked at her fingers as they curved around the smooth stone. She thought of all the other hands that had held it through the years. Soon her own daughter's hands would be strong enough to lift the mano. Then she too would learn the grinding art as Taiyomana had in this same pueblo.

Taiyomano began to mash the corn with a practiced balance and rhythm. A warm shaft of sunlight spilled into the pueblo from the window next to her grinding area. This was the window through which she had noticed the smiling face of Cheupa, her husband, so many years before. On that day she had been grinding corn with several other girls. Outside, their old uncle sat, singing corn grinding songs to them. Together they worked and talked happily, rocking back and forth to the rhythm of their uncle's songs.

Boys had come to the window before to talk and joke with the girls as they worked. More than once Taiyomana had thrown small handfuls of cornmeal through the window at them as a signal that she was not interested. But Cheupa was different - or maybe it was that Taiyomana had changed her thinking. She did not throw cornmeal at him but returned a smile instead. They spoke and laughed with one another through the window, as Taiyomana continued to grind corn. She was proud of her work and the large amounts of corn she could grind for her family. Perhaps Cheupa had seen how much cornmeal was stored on the shelf and was impressed even then by her good work.

Now Taiyomana paused in her work and glanced at the storage shelf. It held even more cornmeal than it had on that first day when Cheupa had come to the window. But now, just as in the past, this cornmeal would provide a basic necessity for her family and Taiyomana would use it in many dishes throughout the year.

Taiyomana continued her grinding and listened to the rhythm of the mano on the rough metate. The rhythm matched a song that her old uncle had sung so often as she and her sisters had ground corn together.

"From the corn we gather the pollen.
The pollen that is like gold,
reminds us of the color of anointment of the ancient ones.
Grinding the corn it reminds us of heaven
and it reminds us of earth.
It reminds us that Father Sky and Mother Earth will unite forever.

From the corn we learn to live,
we learn the life that is ours,
by grinding the corn we learn the footsteps of life.
We go through a purification,
until we are like dust.
The corn came from the dust,
from Mother Earth,
and it gives life,
life from Father Sky.

We are like the kernel that comes from the corn.
With it we bring life,
like the seed of the corn.
Corn is the fruit of the gods,
it was brought to us by the Creator,
that we may remember him.
Our lives,
we must remember that they are holy.
The corn is sacred.
We are sacred.
We hold the seeds of the gods to the future."

There were happy memories in the pueblo, in her grinding stones and in the corn. Her work today would help to insure strength and happiness for her family tomorrow and the days to come. Taiyomana felt peaceful and well as she rocked and swayed, forward and backward to the music of the mano and the matete.

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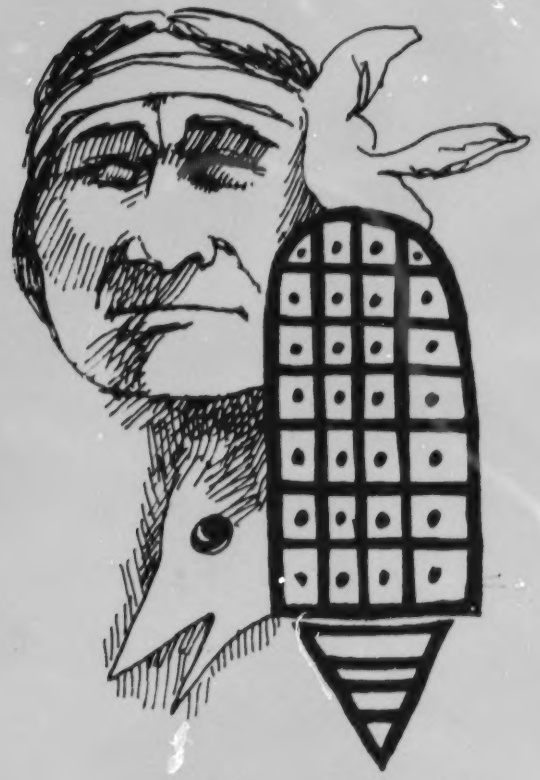
("Music of the Mano and Metate" written by John Bierlein)

HOW THE HOPI BECAME THE PEOPLE OF THE SHORT BLUE CORN

(A Hopi Creation Story)

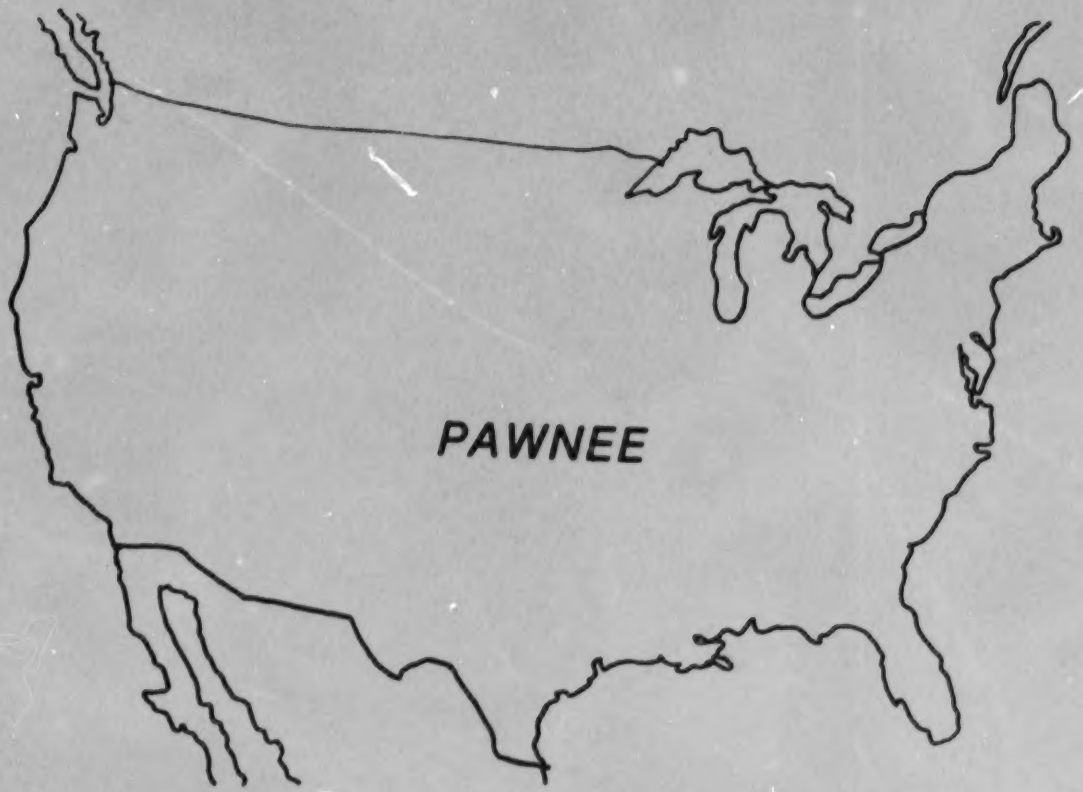


(Reprinted from BIG FALLING SNOW by Albert Yava. Edited and annotated by Harold Courlander. © 1978 by Harold Courlander. Used by permission of Crown Publishers, Inc.)

Long ago humans emerged into this land from a world beneath the earth. When the people came out, the mockingbird arranged them according to tribes. He said to one group, "Sit over there. You will be Comanches." To another, "Sit over here. You will be Hopis." Another, "Sit by that rock. You will be Bahanas, or white people."

Then he set out the corn. He put out different kinds of corn, all the varieties of corn that we know. They were of many colors. One ear was yellow, one was white, one was red, one was gray, some were speckled, some had many colors in one ear, and one was a short, stubby ear with blue kernels. The mockingbird said, "Each of these ears brings with it a way of life for whoever chooses it. Now, this yellow corn will bring prosperity and enjoyment, but life will be short for whoever chooses it." And when he came to the short blue ear he said, "This one, the blue corn, means a life of hardship and hard work, but the people who choose it will have peaceful times and live into the days of their great-grandchildren." He described all the different ears, and the leaders of the tribes sat looking at the corn trying to make up their minds.

Everyone considered which ears were the best, but no one picked any ears of corn. Finally one big tall fellow, a Navajo, said, "All right. You people can't decide." So he reached out and took the long yellow corn that meant a short life but much enjoyment. Then the Sioux reached out and took the white corn. The Supias took the yellow speckled corn. The Comanches took the red corn. The Utes took the flint corn. Every tribe got its corn, but the leader of the Hopis sat there without taking anything until only one ear was left, the short blue corn. He picked up the short blue ear and said, "Well this ear is mine. It means we will have to work hard to live. But our life will be full and long-lasting. Other tribes may perish, but we the Hopi shall survive all things." Thus, the Hopi became the People of the Short Blue Corn.


PAWNEE

PAWNEE LIFESTYLE

Most Pawnee villages were located along the Platte River in Nebraska where the Pawnee built large, dome-shaped *earth lodges.* The lodges were made of logs covered by layers of dirt and grass. Flat land for farming lined the river and its *tributaries.* Groves of cottonwoods, willows and other trees grew in bands along some stretches of the riverbank. These trees were important sources of firewood and building materials. Most of the area surrounding the Pawnee was a vast grassy plain where herds of buffalo grazed.

The Pawnee lifestyle followed the cycles of buffalo and corn, the most important elements of the tribe's *livelihood.* These cycles in turn were influenced by the dramatic differences in seasons.

With spring came the planting of corn and other crops. Planting areas might be many miles from the villages. These areas were usually about an acre and could produce enough corn for a family of four (an acre is roughly the size of a football field). After about a month the corn was large and tough enough to survive on its own. This was the time to leave the village of earth lodges for the first of two annual buffalo hunts.

Everyone in the village left for the hunt. Scouts scanned miles ahead while great throngs of people traveled behind with thousands of horses, dogs and mules moving in flowing lines across the plains. In their path was left a wide trail of trampled grass and dropped articles. Food supplies sometimes ran low with only dried corn from the year before left to eat. To add to their diet along the way, they often killed small game and dug for edible roots. When the buffalo herd was located, the hunt began.

There were often so many buffalo that the Pawnee could pick the animals they wanted. Sometimes the hunters would wait quietly near a river or waterhole while several buffalo would come to drink. Then they would take down the young bulls and yearlings but leave the cows. The cows' meat would be tough and their coats worn, and many were still caring for their newborn calves.

Late during the summer hunt scouts would ride back to the earth lodge villages. There they would check the ripeness of the corn. Then they would return to their people on the prairie.

Mole-in-the-Forehead, Band Chief of the Pawnee (from George Catlin painting)

Sometimes it was not possible to send a scout or runner back to check the corn crops. But the Pawnee had another way to tell how mature their corn was without actually seeing it, as you will discover when you read the short story, "The Pawnee Circle."

Fall was the time of plenty. Buffalo, elk and antelope meat was abundant as well as the harvest of corn, beans, pumpkin and squash from the gardens. There was much work at this time: tanning skins, making *leggings*, tipi covers, blankets and shirts, and harvesting the garden. But there was also time for relaxation and games. Soon after this harvest and preparation period, the Pawnee left again for the autumn and winter buffalo hunt. They would not return to their villages again until March.

The winter hunt included trading buffalo robes. Summer robes were of little value because they were so thin, but the winter robes were thick and in high demand. Hunting techniques differed from those used during the summer hunt. For example, in summer the buffalo were scattered all over the plains. In winter they gathered together in herds to migrate to the south. Then the buffalo would be stampeded over cliffs so that many might be killed at one time.

Because of the buffalo hunt, the Pawnee were often away from their villages for as many as eight months out of the year. Yet the village was still home, and provided shelter and storage during the equally important planting and harvest seasons.

You can write to the Pawnee Tribe by sending a letter to:
Pawnee Agency
Pawnee, Oklahoma 74058
phone (918) 762-3624

Though the Pawnee spent a great deal of time away from their villages, the village was an important center for cultural and family unity. Each village had its own set of chiefs and priests, who were important religious leaders, as well as medicine people, who cured the sick and made predictions about the future. Certain men and women in the village had high status because they were admired or well liked. Others held leadership positions because of their courage or performance during war.

A Pawnee leader was traditionally male. He often owed his status to the possession of a medicine bundle passed on from father to son. These bundles could sometimes be purchased and were usually buffalo skins containing items with special powers, such as a pipe, pigments, tobacco and corn. The powers came from a star

under whose directions the bundle was put together. The stars play an important role in Pawnee religion and the power of these gifts from the heavens is highly respected. Also highly respected, but in a different way, are corn and the buffalo, for they were the basis of survival for the Pawnee.

Pawnee buckskin dress

During the four months of the year when the Pawnee stayed in their villages, much time was spent in planting, caring for and harvesting corn. Pawnee women carefully selected seed from the corn plants that produced many ears of good quality. They kept a two-year supply of these seed ears on hand at all times. The Pawnee knew that different types of corn could cross-pollinate, so seed ears were only taken from pure varieties. Ten varieties were planted separately, often by different members of the family in separate gardens. Two varieties were generally planted 60 to 100 yards apart to prevent cross-pollination. Sometimes they were even planted at opposite ends of the same garden with other crops in between.

The fields were mainly cared for by women and children, but the men also helped. Clearing the fields and planting was hard work, and good tools were needed. Strong hoes were made from the buffalo's shoulder blade attached to a strong stick. *Ligaments*, taken from the back of a buffalo's neck, were wound around the shoulder blade and the end of the stick. This formed the hoe blade. Then the blade was dipped into hot water so that the ligament shrank and bound the bone firmly to the stick. Rakes were made from willow or antler, and special sticks were used for digging. All three of these tools were used in the fields.

Preparation for planting began in April, the field clearing moon. By this time the ground had thawed and tender grass shoots were poking upwards across the prairies. Some garden patches were located along small streams near the villages. Pawnee women left the village in early morning with their children and dogs to work on their fields together. Young men would come with them to protect them against raiders from other tribes.

Their first choice for farming ground was a place where the sod was not too thick and a little soil showed through the grass. They worked the ground with digging sticks, antler rakes and hoes to loosen the weeds and roots, and raked them into piles for burning. The next day the loose soil was shaped into hills about two feet in diameter and two or three feet apart. Before the seeds were planted, they were soaked overnight in water or special medicine. The recipe for this medicine was passed on from generation to generation to help the family's crops grow well. The kernels were kept moist while they were carried to the field. Four to six kernels of corn were planted about 2 inches deep around the sides of each hill, with one kernel planted on top. Then the seeds were covered and the hills shaped into smooth mounds.

Beans were often planted on the same hills as the corn, so the vines

would grow up the corn stalks. Sometimes willow sticks were put in the ground to give the vines more support. The different types of corn were separated from each other by patches of pumpkins, squashes and melons.

In order to protect their crops, the Pawnee surrounded their gardens with a simple fence of shrub and tree branches. Platforms were also built where people could watch over the crop and frighten away crows or blackbirds. As the young corn shoots poked through the mound, the Pawnee became even more alert for weeds, crows, rabbits and gophers. Before they left the village at the end of June, the corn would be about knee high. The last thing that was done was to pile up the earth in hills around the young plants, which made them look like little earth lodges with smoke coming from their smokeholes.

When the Pawnee returned from the summer hunt with fresh supplies of dried buffalo meat, the corn plants were often ten feet high. Sometimes two or more families could work together in the fields to pick large quantities of corn. They would set up their tipis nearby and then build small shelters of willow next to their crops. Inside these shelters the women prepared long roasting pits, which would be used in the first of two harvests.

The early corn which is not fully ripe and "in the milk" was harvested first. The men helped by gathering firewood and picking the corn. A fire was built in the pit and the ears were set against a log or a small bank of soil next to the pit. If two women were working together they could roast ears along both sides of the narrow roasting pit. The ears were roasted until the husks turned black. The women had to constantly turn the ears so that the kernels were not burned. When the ears were roasted completely, they were put aside with the husks still on to preserve the flavor. After the ears cooled, the husks were removed. Then the Pawnee women cut the kernels off the ear using a freshwater clam shell. Later the kernels were packed to the tipis where they were spread out to dry on skins in the sun. Each night they were gathered up and each morning they were spread out in the sun again. The kernels were considered to be dry when they made a crackling noise as they were poured out.

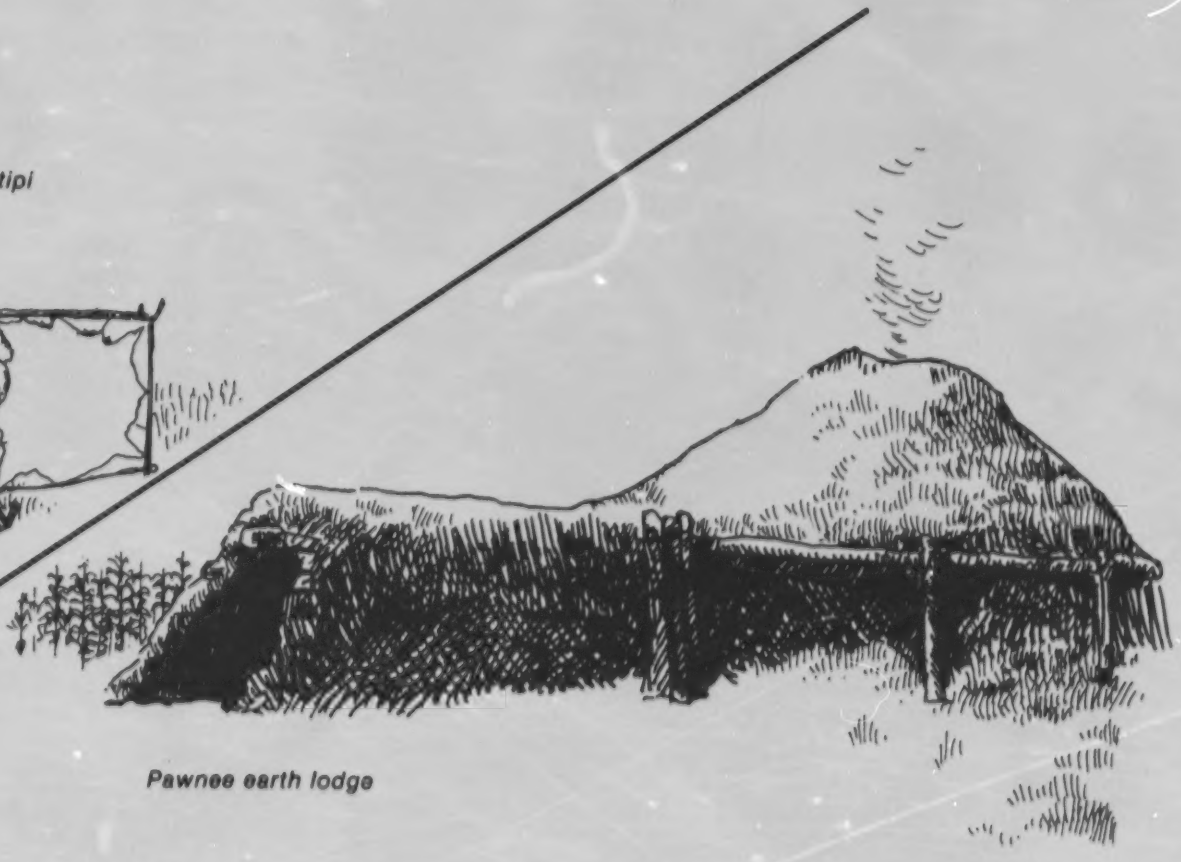
Some of the corn was treated differently. Several dozen of the best ears from several fields were left whole. Only the burned parts of the husk were removed; and what remained was peeled back and braided together with the husks from about a dozen other ears. These corn braids were hung up to dry and were kept this way through most of the winter. Sweet corn was the variety usually selected for this type of storage. When it was cooked, it tasted almost like fresh corn on the cob.

The second corn harvested was the corn that was left on the stalk to fully ripen and dry. Most of this corn was picked and the kernels pried from the cobs with a pointed stick. The smallest ears, called "nubbin ears," were fed to the horses to make them fat for winter. Finally, the sticky sweet corn that had been left on the stalk the longest was picked. The husks were peeled back, braided and hung to dry.

The dried corn was often boiled in water and wood ashes to remove the hulls, restore its moisture and make it softer. Other times the dried kernels were ground up in wooden mortars made from tree stumps. To pound the corn, a four foot long, wooden pestle was used. One end of the pestle fit into a wooden, carved-out mortar which held the dried corn. The top end of the pestle was larger to give it more weight on the downstroke. The result of this pounding was cornmeal which was made into cakes. These cakes were baked in ashes on hot stones. The women or men who harvested their fields alone often used small stone mortars and pestles. These stones were carried to the fields along with a small kettle to cook in. The mortar and pestle would be used to grind small amounts of corn for daily meals during their harvest work.

The Pawnee also used fresh corn, though they did not eat very much of it unless other food was in low supply. When fresh corn was used, it was often still a little green and would be mixed

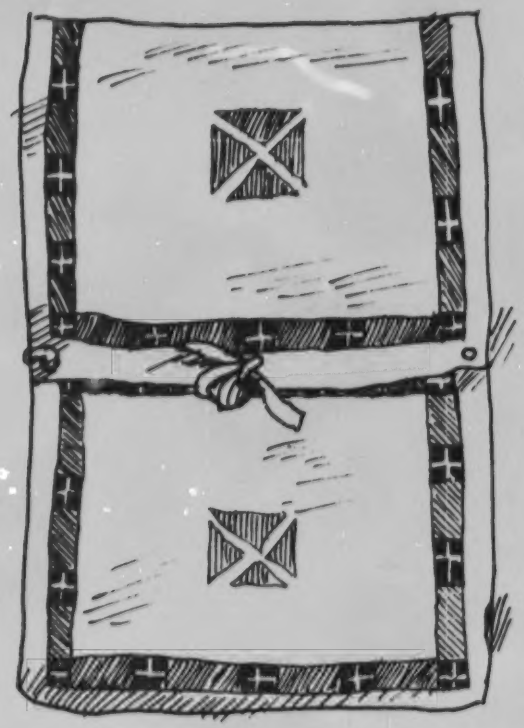
Pawnee tipi



Pawnee earth lodge

Pawnee drawing of a buffalo hunt

Parfleche



with unripe beans and boiled with bear or buffalo meat. During the harvest season, children were given pieces of corn stalk to chew on. When they bit into a stalk between the joints and then twisted it, a sweet juice would come out. But it was the dried kernels of corn that were most important as a food source.

Dried corn stored well and was very important during the winter and through the spring. The last of this corn would be taken on the summer hunt; often there wasn't much left by this time. Even so, it was the Pawnee's main food until they found buffalo. It was important that the storage areas be well protected from the weather and from animals which would try to eat the corn.

The Pawnee stored their crops in leather sacks made from buffalo hides, called *parfleches*. The parfleches varied in sizes from sacks like our fifty-pound flour sacks to huge parfleches six feet high and three feet in diameter when full. These parfleches were stored in a round pit much like a root cellar. The pit was ten feet across and ten feet deep. At the top was a much smaller opening. The walls were lined with grass and held in place by sticks. The sticks kept the storage parfleches up off the ground so they would stay dry. These sticks were covered with grass, which was replaced after each harvest.

The following is a short story about a Pawnee teenage boy named Yellow Calf. It is written to give you a feeling of Pawnee life before contact with Europeans.

THE PAWNEE CIRCLE

It was September. Young Yellow Calf rested his hands on his leggings and glanced at the other young men advancing on ponies across the plains. Yellow Calf's moccasins dangled at his pony's sides, moving in rhythm with its hoofbeats. He could see the little clouds of dust kicked up with each step.

This would be the final day of the buffalo hunt. During the last three months, the Pawnee had taken many animals. Great amounts of meat had been dried and hundreds of hides had been tanned. Now the seedpods of the *milkweed* were getting fat. The corn near the village would be green and ready for harvest soon. So it was time to return to the earth lodge village.

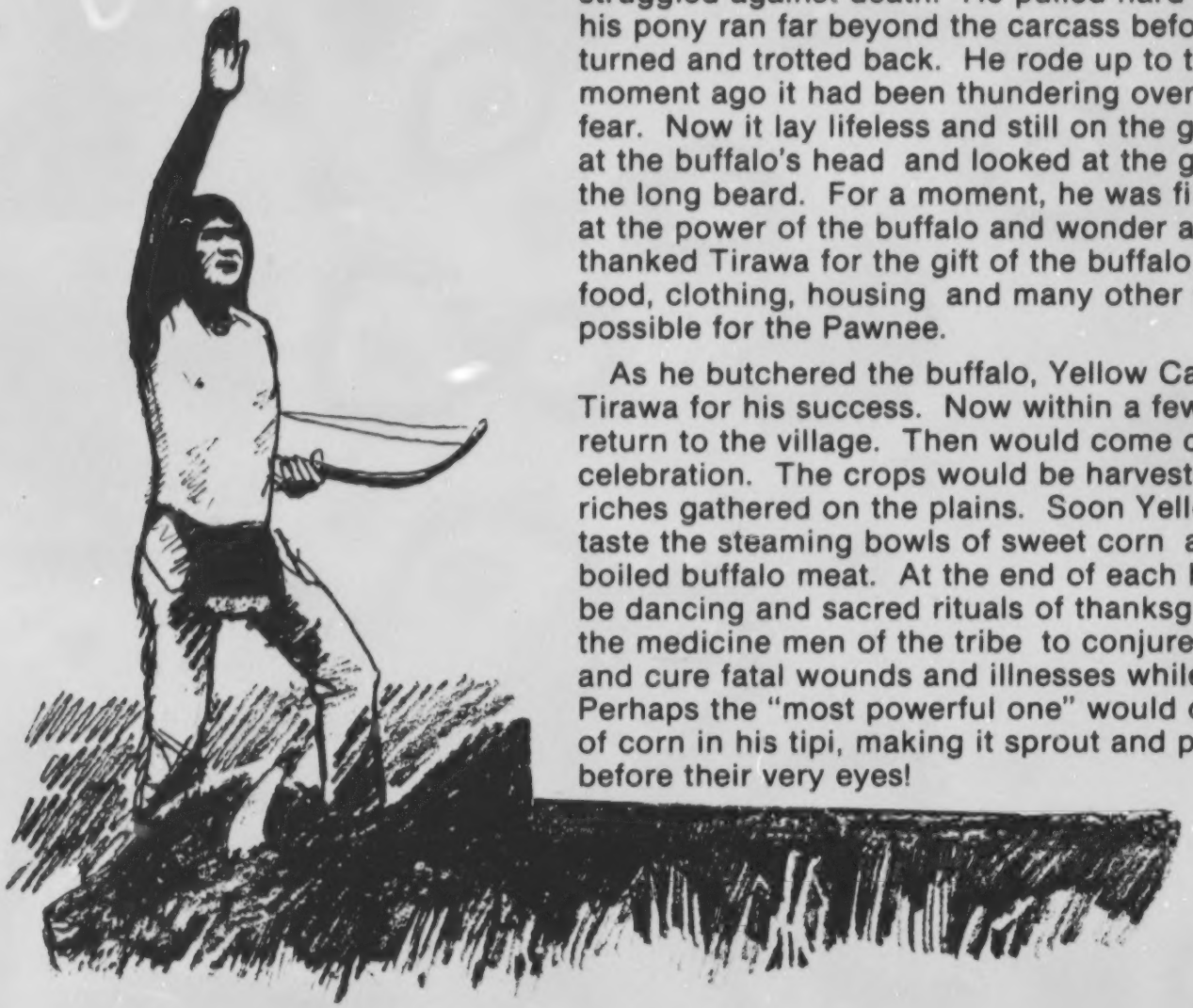
As his pony plodded along, Yellow Calf's thoughts turned toward home. He remembered that spring when he was given the responsibility of guarding the women and children while they planted and weeded the crops. Many had lost their lives to raiders from enemy tribes while caring for the new plants. He was there to protect the farmers until the plants were large enough to be left alone.

Four thousand people - men, women and children - along with thousands of horses, mules, and half-wild dogs had joined together in a sea of life in search of the buffalo. Yellow Calf remembered how difficult the first weeks had been. The tribe had left the village with only a little corn to sustain them. He and the other hunters had kept the tribe alive by killing small mammals and birds, while the women had dug roots. If *Tirawa,* the Creator, did not favor the tribe, the hunt would not be successful and the Pawnee might even face starvation. But the time for this fear was past. The hunt had been a success. Great packages, or *parfleches,* of dried meat and buffalo robes now were lashed to the inclined poles, the *travois,* that dragged behind the older ponies. The raiding parties had returned from the south, bringing many more ponies. Someday he, Yellow Calf, would ride on raids and bring back many ponies.

But Yellow Calf did not have any more time to think about the raiding parties. As his pony came up over a rise, he caught sight of a small herd of buffalo grazing in a ravine just a hundred yards off. In a rush of excitement, he loosened his grip on the strip of rawhide tied around his pony's lower jaw and urged the animal to run.

Yellow Calf could feel the body of his pony floating under him, whisking him over the blurred grasses, leaping ditches and dodging bushes. The horse's nostrils flared, sucking up deep breaths of needed air, as it raced, eager for the chase. Yellow Calf singled out a large buffalo and swerved left over the ravine as it broke from the herd. His pony raced on, churning up a cloud of dust. As he came alongside the buffalo, Yellow Calf could see the muscles rippling along its shoulders and flanks. It weighed four times as much as his pony. Huge hooves pounded beneath it. He could feel the beast's power and *desperation*, as he drew up toward the head, seeing the panic in the animal's eyes.

There were two places he could aim for, the neck and the side. If he struck the neck well, the arrow would sever the *jugular vein* and the great beast would quickly bleed to death. If he struck the ribs the arrow might bounce off. Only if he were lucky would his arrow go between the wide ribs. Which should his target be? He felt a strange mix of fear and boldness as he slipped an arrow into his bowstring. Suddenly the buffalo veered towards the right. Now only his left side was exposed. He released the arrow and it disappeared into the buffalo's rib cage.



Yellow Calf saw the cloud of dust when the buffalo fell and struggled against death. He pulled hard on the rawhide rein. But his pony ran far beyond the carcass before it could stop, then turned and trotted back. He rode up to the gigantic animal. A moment ago it had been thundering over the prairie in frenzy and fear. Now it lay lifeless and still on the ground. Yellow Calf knelt at the buffalo's head and looked at the great curved horns and the long beard. For a moment, he was filled with wonder, wonder at the power of the buffalo and wonder at what he had done. He thanked Tirawa for the gift of the buffalo, for the buffalo gave food, clothing, housing and many other things that made life possible for the Pawnee.

As he butchered the buffalo, Yellow Calf continued to thank Tirawa for his success. Now within a few days, the tribe would return to the village. Then would come days of joy-filled celebration. The crops would be harvested and added to the riches gathered on the plains. Soon Yellow Calf would again taste the steaming bowls of sweet corn and the *succotash* with boiled buffalo meat. At the end of each harvest day there would be dancing and sacred rituals of thanksgiving. Then would come the medicine men of the tribe to conjure up ferocious beasts and cure fatal wounds and illnesses while the tribe watched. Perhaps the "most powerful one" would once more plant a kernel of corn in his tipi, making it sprout and produce new ears of corn before their very eyes!

Yellow Calf's knife worked quickly, slicing and sectioning the huge animal. The village might be home, he thought, but the tribe would not stay there long. As soon as the corn was braided and hung to dry or stored in great pits for the winter, they would again leave to follow the buffalo.

And so the circle continues for that is the
Pawnee Way . . .

buffalo hunt

harvesting corn

planting corn

buffalo hunt

Corn and buffalo, he thought: corn for comfort and home, buffalo for adventure and movement. Together, with the help of Tirawa, they would sustain the tribe. Under the heavens he would gladly play his own part. Yellow Calf knew that this was how it should be, and his heart was full.

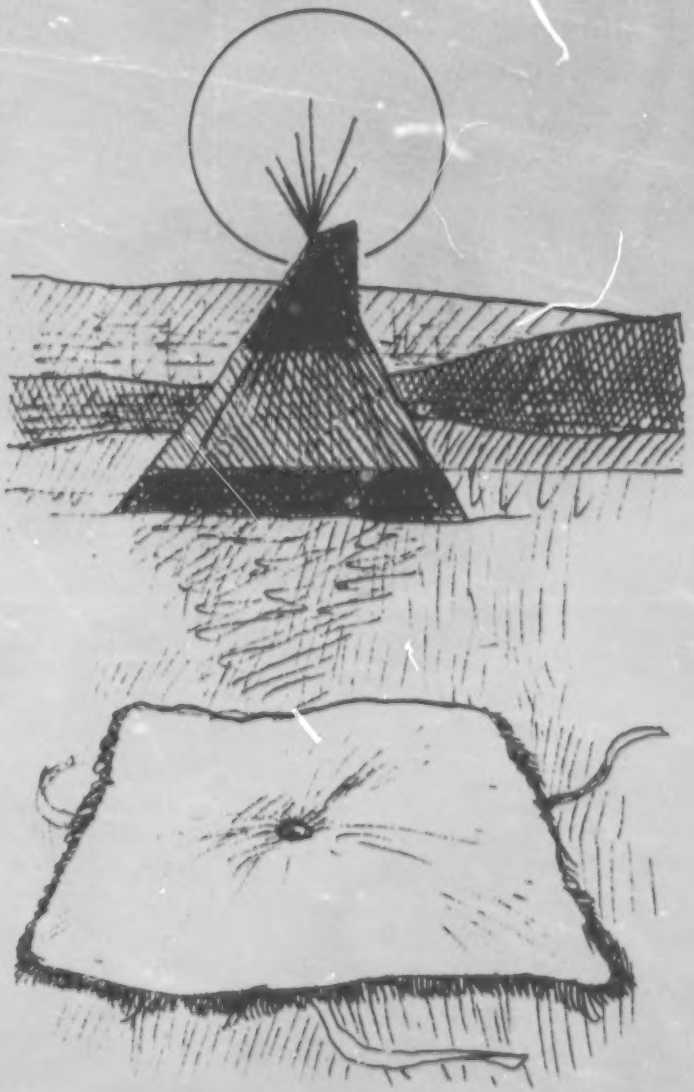
("The Pawnee Circle," written by Brandt Morgan, adapted by Sherry Mathers)

THE GRAIN-OF-CORN BUNDLE

(Pawnee legend, told by Pretty Crow, a young Skidi medicine man who it is believed obtained the story from his present wife, the widow of an old Skidi by the name of Wonderful-Sun, who was both priest and medicine man. The tale relates to the origin of one of the bundles. It was told to emphasize the importance of economy in corn, and also to instill a reverential feeling toward corn.)

A man was roaming over the prairie. He came to a place where people had camped and there he heard a woman crying. The man went to the place where the crying came from, but there was no one there, and he did not know what to think. When he went home he lay down, and in the night he had a dream. He dreamed that he saw a woman. The woman spoke to him and said: "I stay where the crying came from and I was glad that you hunted me and tried to find me. I am going to help you find me, and also let you see me. As soon as the sun goes down and it becomes a little dark, I want you to go to the place where you heard the crying. I will be there, and there you shall see me and I will tell you some things that you do not know."

When the man awoke, he thought of the woman he was to see that evening, and so he watched and looked over the country until the sun went down. He watched the women passing through the village, and as soon as the sun disappeared and it became a little dark he went to the place where he had heard the cry. As soon as he arrived at the place, instead of hearing the crying he saw a woman. The woman spoke to the man and said, "Look, look at me, for I am the one who was crying at this place." The man looked at the woman and he saw that she was a fine looking woman. She said again: "Young man, when the people passed over this place while hunting buffalo, they dropped me. I have been crying ever since, for you know that the people do not let a kernel drop from an ear of corn." Then the woman said,



"Look upon the ground where my feet rest." The man looked and there he picked up a kernel of corn. This kernel of corn was speckled. "Now," said the woman, "pick me up and always keep me with you. My spirit is of Mother Evening Star, who gives us the milk that is in the corn. The people eat of us and have life. The women give the same milk from their breast when they have children and their children grow up to be men and women. You must carry me wherever you go. Keep me in your quiver and my spirit will always be with you." The man took the kernel up and the woman disappeared. The man went home and kept the kernel close to him all the time.

One day he went upon the warpath and tied the kernel to the quiver. When he had journeyed for many days, the woman appeared to him in a dream and said: "The enemy is close by you. You are about to reach their village." The next day the man went out and before sunset he came in sight of a village. He sat down to rest and wait for sunset. As night came on he went down towards the village. Before he reached the village, he came upon a spotted pony. He got upon its back and rounded up several other ponies and drove them to where the people were. When they saw him coming alone with his ponies, they were surprised. That night as he slept the corn-woman spoke to him and said: "Young man, take me. Spread some buffalo skins over me and cover me with a calf hide." The man did as he was told and the kernel of corn was put into a bundle and the bundle became a sacred bundle. The man told his mother to watch over the bundle and to care for it.

One day he went to the gambling grounds, and while there the mother opened the bundle and saw the kernel of corn. The woman picked it up and began to pray to it, and promised to care for, and also asked that she might have many children. Then she wrapped the bundle up and laid it away. When the young man came home, he did not feel well and so he went to bed early. In his dream he saw the woman again, this woman said: "I am Corn Woman. Your mother saw me and asked many things. All the things that she asked of me will come true."

The young man became a good warrior. He brought home many ponies. He said, "In the tribe is a nice-looking girl whom I like." The Corn Woman spoke to him in a dream and said: "I do not want you to marry for two seasons. When you have received my spirit and understand me, then you shall marry. You must tell your mother to place me in a large hill of earth. When a stalk grows from the hill and you find corn upon the stalk, do not eat it, but lay it away. Then the next spring tell your mother to plant some more corn and the next fall there will be a good crop and you will see how the corn has multiplied." The young man did as he was told. As the spring came the mother placed the kernel in a big hill of earth. In the fall she gathered five ears of corn. These she laid away until the next spring; then she planted much more corn.

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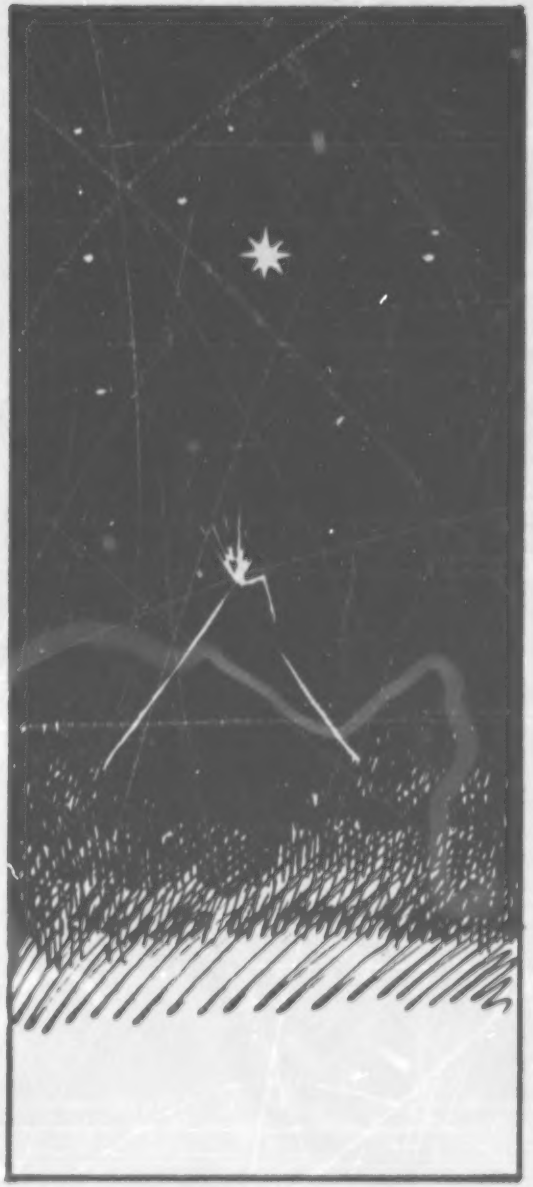
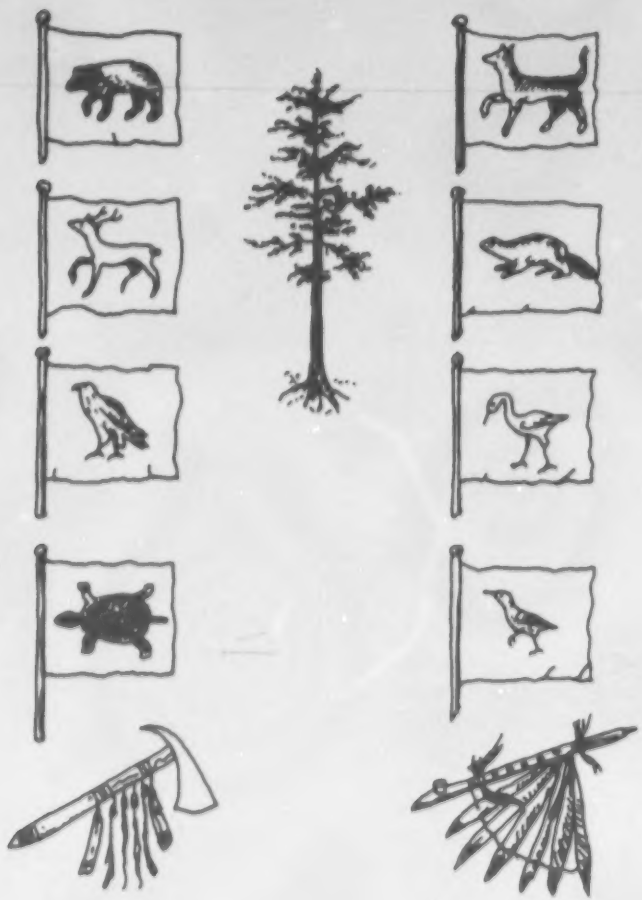
About that time the young man married. The young man and his wife had many children, and their children had children, and thus they multiplied as did the corn. The man said to his mother, "Mother, you must never drop a kernel upon the ground, nor into the fireplace, for the corn has life." The young man's first child was a girl. Corn Woman appeared to the man in a dream and said: "I shall name the girl. Call her 'Woman Carry the Leading Corn,' because her father carried Mother Corn upon his back when on the warpath." When Corn Woman disappeared she told the man to tell his people, when they were ready to plant corn, pray first to Mother Corn and then to Mother Earth. "When you have placed the corn in the earth, then stand to the West and pray to Mother Evening Star to send rain upon the earth so that the corn will grow. Pray also to Mother Moon, who helps give life to people, and she will listen to what people say. Never drop a kernel upon the ground, for Mother Corn will curse you and your life will be shortened." Corn Woman also told the young man that when the corn fields were high, all the people were to take their children into the fields and to pass their hands over the stalks and then over the children. Thus the children would grow and bad diseases would go away from them. Corn Woman also said: "When the tassels are out, then watch. There will be singing in the fields. Remember where the singing comes from. Remember that this is the sacred ear of corn. Take it from the stalk and take it to the old man, who will place it in the sacred bundle so that people will know that Mother Corn did sing to her people." The Pawnee worship Mother Corn, because she represents Mother Evening Star.

(Used with permission. "The Grain-of-Corn Bundle," in THE PAWNEE MYTHOLOGY (PART I), by George A. Dorsey, Carnegie Institution of Washington publication 59, Washington, D.C., 1906)



SENECA

SENECA LIFESTYLE



Clan flags (Tree represents the Iroquois Confederacy)

The Seneca tribe belongs to the *Iroquois Confederacy,* a powerful sisterhood of tribes famous for their successful political system. The Senecas were also known for their skills in warfare and their commitment to protect the Confederacy and its tribal lands. Their woodland surroundings included an almost unlimited supply of firewood, rich soil, sparkling springs, clear streams, lakes and rivers. The villages were usually located between the forks of two streams and protected from raiders by high, sturdy fences.

All Seneca lived in longhouses made of elm wood poles and elm bark shingles. They were rectangular in shape, from 18-25 feet wide and as long as 150 feet, depending on the number of families living inside. As many as a dozen related families lived together in a single longhouse. All of these families belonged to the same clan. Many tribes are divided into clans. A *clan* is a social group that works together and protects its members from outsiders. Each clan takes its name from a plant or animal that is very important to the clan's history. Painted above the door of each longhouse was the *crest* of the clan it belonged to. The Seneca have 8 clans: the Wolf, the Bear, the Turtle, the Deer, the Hawk, the Snipe, the Beaver and the Heron.

Each clan is made up of several sisters, their husbands and children, as well as the husbands and children of their daughters. When a young man married, he would have to leave the longhouse in which he grew up. He would move into his wife's longhouse and their children would belong to her clan, not his. This system of relations is called *matrilineal descent,* which means the Seneca people are related to each other through their mother's relatives, rather than their father's.

If you were a young Seneca woman and you were going to get married where would you plan to live? What clan would your children belong to? Would your husband's clan change?

The oldest woman of the clan was the *Clan Mother.* She was the head of the household and made the decisions for the members of her clan. When she died, the next oldest woman took her place.

Clan Mothers held much political power and were often the *"Faith-keepers"* of the longhouse society, since the men were gone much of the time hunting, trading, or fighting to protect their lands. The old ones, or elders, in the tribe were also respected as wise and experienced people. The women were responsible for looking after the old, caring for the young and tending the crops.

Each year the Seneca women planted, weeded and harvested thousands of bushels of corn, beans, and squash (which are always called the Three Sisters) as well as sunflower

seeds and other crops. They also gathered wild nuts, berries, roots and maple syrup. What the Seneca did not eat fresh they stored underground. When the men returned home, they brought deer, elk, beaver, muskrat, raccoon and other game. Then there would be great feasts at the longhouses, which might include venison stew with vegetables, hot corn dumplings, hulled corn soup, boiled corn bread, hominy, mushrooms, ash baked apples, nuts and berries. There would be plenty for everyone.

Seneca babies were born in the privacy of pine-scented forests, where they were washed in fresh spring water or snow, wrapped in furs, and carried back to the waiting longhouse family. Because the father was gone so much of the time, the mother and other women were the main sources of wisdom and comfort for the young.

Children were given much love and discipline. They were taught not to overeat and given regular cold baths and scrubbed with dried corncobs. When about eight years old, they began to learn the skills and duties they would need for their adult lives. Girls accompanied their mothers, aunts and grandmothers to the fields. The boys wandered for days at a time in the woods, often with groups of friends, learning to hunt and live off berries, nuts and roots. When a boy killed his first deer without help from anyone, he could join the men's hunting parties.

Seneca life depended upon the successful learning of many important skills and upon the special roles of all the clan members. It was also dependent on the resources of the natural environment. Farming year after year wore out the land and nearby trees were used up for firewood. So at least every 20 years the villages were moved. The old longhouses were left and new villages were built on nearby hilltops usually not far from a river or stream bank. The rivers and streams were used for transportation and fishing and usually had good soil for farming nearby.

So the Seneca way of life continued to move along these rivers and streams leaving a well used network of trails, fields and village sites, many of which exist today in western New York and eastern Ohio.

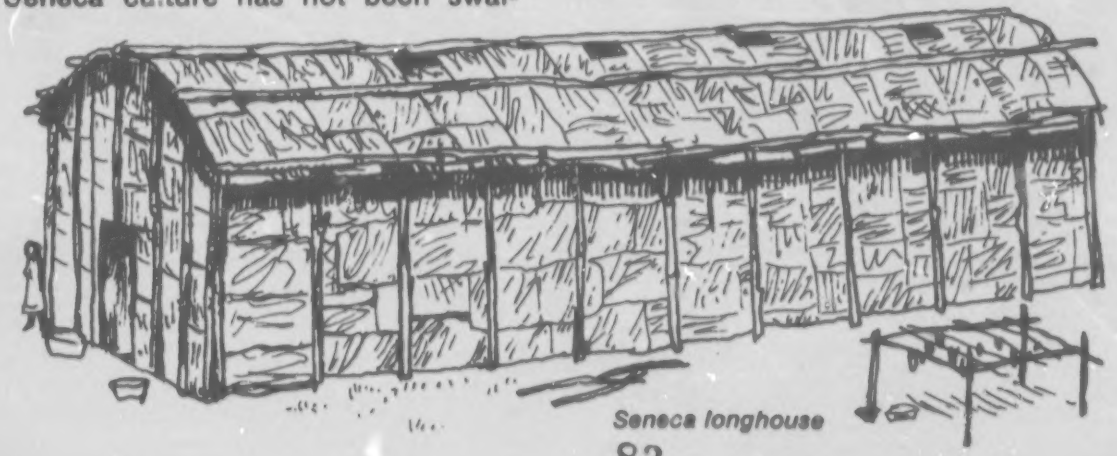
Modern times have brought many changes to the Seneca people. But the Seneca culture has not been swallowed up by non-Indian civilization. The Seneca society continues to be matrilineal and based on the clan system. The culture is still rich in its heritage of music, dance, art, cooking, oral tradition and occupations.

You can write to the Seneca Tribe by sending a letter to:

Special Liason Representative
for the Seneca Nation
P.O. Box 500
Salamanca, New York 14779
phone (716) 945-1790

or

Seneca Iroquois National
Museum
Allegheny Reservation
P.O. Box 442
Broad Street
Salamanca, New York 14779
phone (716) 945-1738



Seneca longhouse

Seneca -- Cultivation and Preparation of Corn

Since the Seneca's environment was mostly wooded, some of the forests had to be cleared for farmland. Trees were killed by a process called *girdling*. Girdling involved removing a ring of bark and inner bark from around the trunk of the tree. Food produced in the leaves could not get to the roots and the roots died, slowly killing the whole tree. The dead trees were left standing in place, since without their leaves they would not cast much shade on the corn to be planted later. The underbrush was burned and the smaller trees were pulled out of the ground. Eventually, the larger standing trees would rot and fall over, leaving a totally cleared patch for farming.

The women were primarily responsible for land clearing though men sometimes helped if they thought no one would see them, for it was considered embarrassing for a Seneca man to be seen working in the fields. Men were supposed to hunt, bring back food and always be ready to defend their people and tribal lands.

In preparing the soil, the women used hoes. The hoe's blade was made from either a large flat bone, a piece of flat wood, a flattened antler or a chipped stone. Some of the hoes had long handles, while others were short, so that they could be used from a sitting position. The clearing and hoeing were done in parties and the women looked forward to this work. It was a happy time to talk with friends. Children helped, and the work could usually be finished in a few hours. The weeds, remaining shrubs and old cornstalks were removed and left to dry for a couple of days. Then they were scraped into piles and burned.

While the soil was being prepared, the seed corn was soaked in warm water or in medicine. The medicine included the juices of poisonous plants, which kept crows and other animals from eating all the seed after it was planted. A bird eating the seed soaked in this medicine would flutter dizzily across the field and often frighten away the other birds.

Planting began in April and the women chose a leader to direct or supervise the work. She inspected the individual fields or got reports on them. Then she decided where to begin work. Her work group was made up of the owners of several fields, and they worked together to plant and weed the fields of the clan. The women carried the seed corn in special baskets which they tied to their waists. They began planting at the corner of one field and when they finished they went to the corner of another field. Holes were dug about a yard apart, and four or five seeds were dropped in about four inches deep and then buried. The soil was scraped into little mounds where the corn seeds were planted. And in every seventh mound the Three Sisters-corn, beans and squash, were planted as well. The fields were weeded as the corn grew and other fields were planted through the spring. Most of the planting was done during May. Corn planted in April was harvested in August; corn planted in May was harvested in September; and corn planted in June was harvested in October.

The cornfields sometimes stretched for miles on both sides of a stream. They were not always owned by the clan but might be individually owned. If an individual wanted to work in her own field, she would have to do her share of work in the tribal fields as well. The individually owned field was marked by a post with the symbol of the clan painted on it, along with the individual name sign.

When the corn was about ten inches high, the work group would go into the field to hoe and weed. The group leader would begin the work with an equal number of workers on either side of her and slightly behind her. At her signal they would begin working and moving down the field at the pace she set. The owner of the field provided a feast at the end of the hoeing. But before eating, the women went to the nearest stream or pond to bathe. Their work was accompanied by singing, laughing and joking and all this was

topped off with splashing in the water to refresh them before the feast.

In the fall when the crop was ripe men and women went to the fields to gather the ears of corn. They strapped large harvest baskets to their heads or chests and carried the baskets on their backs. They skillfully tossed the ears of corn over their shoulders and the corn landed in the baskets. The harvesters moved together through the fields of tall corn stalks until their baskets were nearly full. Then corn was dumped into piles and carried to the longhouse. Sometimes whole cornstalks were pulled up by their roots and carried back and piled crosswise in layers for future husking.

The husking was another gathering time, and it was sometimes held under moonlight around an outdoor fire. The husked ears were arranged for roasting or placed in a corncrib, a wooden storage cage. Many of the husks were left attached to the ears but simply bent backwards, so that they could be braided later. These ears were leaned in rows against a wall or log with the husks on the floor or ground. Husking pins were used to make the job of husking easier. They were awl-shaped pins made of bone or antler with a finger strap, and were used to tear away the husk.

The Seneca often braided the corn husks together with the ears still attached. Then they hung these braids on poles and cross beams in the longhouse or in another protected building. Some of the corn, which had been dried by the sun or a fire, was removed from the cob and buried in baskets or barklined barrels with holes poked in their sides. More corn was harvested than could be eaten and this was stored to be used for trading or for emergencies. The storage of corn was very important. In addition to barrels and baskets, special underground pits were dug and then lined with bark and grass. These pits were also filled with corn, and watertight roofing made of bark was put over them. Then the roofing was buried with soil.

The Seneca cracked or ground much of their corn for use in soups, hominy, puddings and bread. This work was done with different types of mortars (hard bowls), and pestles (pounding *implements*). Wooden mortars were made from log sections which were carved down to about twenty-two inches high and twenty inches wide. A hollow was carved to a depth of about twelve inches. In contrast, stone mortars were flat and often small enough to be carried in a basket. For use with the wooden mortar, a pestle was made from hard maple wood, and it was usually about 48 inches tall. It is shaped the same at both ends so that either may be used for pounding. The two ends are larger and therefore heavier than the more slender middle section and help add power to the pounding stroke. The stone pestle was a flattened stone and used only with the stone mortar.

Some of the corn was made into hominy, and a special basket was used to remove the *hulls* or outer coverings of the corn kernels that had been cooked in ash and water. Another basket with a tightly woven base was used to sift the cracked corn. The bottoms of these sifting baskets were like *sieves* and only pieces of corn a certain size or smaller could fall through the holes. The larger pieces were put back into the mortar to be repounded and resifted until all were small enough to be used.

Other Seneca uses for corn

In addition to food uses, the corn plant was useful to the Seneca in many other ways. They hollowed out corn stalks for medicine containers and sealed them with removable plugs. These tubes were from 2 to 8 inches long. Boiling green corn stalks gave them syrup and the central column or pith of the corn stalk gave them a metal polish. A lotion for treating burns was made from the stalk and corn roots, and sections of the dried stalks were used for fish line floats. Counting straws were made from tassel stems and used for keeping score in some children's games.

The Seneca wrapped certain foods in corn husks and even braided the husks into fine ropes. They sewed the

husks into masks, shredded and used them to stuff pillows and mattresses and even used them for making husk dolls. Single husks were folded together and used as small torches or torn for kindling. Husks were woven to make such things as mats, baby hammocks, moccasins, sandals, bottles for storing salt and ash, trays and baskets.

Even corn silk was useful. With some creativity and skill it became the hair on corn husk dolls. Dried silk was sometimes powdered and then added to certain medicines. Corncobs were used for scrubbing, for stoppers in husk salt bottles and gourd rattles, for pipe bowls, and for combs to clean pumpkin and squash seeds. They made good back scratchers and were burned to smoke meat and hides. Even corn kernels had interesting uses apart from food. They were used as beads and decorations and were traded for oil. They were also put into gourds to make rattles.

There were many other uses of co- too numerous to mention. Perhaps it most important to realize that corn was part of nearly evury aspect of the Seneca lifestyle.

The following is a short story written about a Seneca teenage girl living before European contact.

PLANTING CORN WITH SWAYING FLOWER

Swaying Flower used her antler hoe to turn and stir the rich, black soil. She knelt down and kneaded the earth between her fingers, remembering how the Seneca elders had said it would be time to plant the corn when the *juneberry tree* is in blossom. Today it was time. Swaying Flower reached into the little basket tied around her waist by a strip of cloth and pulled out a handful of corn kernels. This corn seed had soaked for 3 days in strong medicine to keep away the crows. When grown it would make good soup, bread and mush. "You will grow well in this ground, my sister," she thought.

Bending down to make a hole in the soil with her hoe, Swaying Flower dropped in 4 kernels of corn. She made sure the seeds did not touch each other and then she gathered the earth into a small mound over them. Soon this corn would sprout, she thought, and before long it would be growing straight and tall, with long, fat cobs and silvery tassels. There are many kinds of corn, but the sacred white corn is the most important. Next she took out several bean and squash seeds and planted them also. She imagined what this mound would look like in two months with the beans winding their tendrils up the corn stalks and the large leaves of the squash shading out the weeds below. Corn, beans and squash -the Three Sisters- would sustain the tribe for the coming year.

As she bent over again, the seed basket around her waist twisted. She straightened the basket and looked around her. The fields beyond the longhouses were filled with women - women digging, hoeing, preparing the ground, planting just like herself. They would plant other vegetables besides the Three Sisters, crops like cucumbers, pumpkins, tomatoes and melons. Many of the women and girls were singing songs and chatting as they worked. They all followed the example of the clan mother - Swaying Flower's grandmother.

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Swaying Flower was in her twelfth year. She had been planting and harvesting the crops now for as long as she could remember. Every year she had smelled the smoke from burning bushes being cleared by the men. Every year she had eagerly followed her mother's example, glad to be invited to participate in these joyful planting sessions, glad to be growing up a woman among the great Nodowa'ge:ono--the "People of the Hill."

The Seneca woman was powerful, this Swaying Flower knew. Even her own power would be passed on to the rest of the tribe through the corn. Eventually the kernels she planted would nourish all the tribal members as they gathered around the big containers of hulled corn soup and ladled the steaming liquid into their elm bark bowls. She would pound the corn into meal with the huge wooden mortar and pestle. She would sift it through fine sieve baskets into bark trays and mix it into corn bread, puddings and parched cornmeal for the others, sometimes mixing it with berries, nuts and sunflower oil. She would pack the cornmeal into bearskin bags with maple sugar to give energy and power to the hunters and warriors. And that power would come back to the tribe again, multiplied in the form of deer, bear, and fish. The power of the corn would also be stored in bins and baskets in corners of the longhouse and in pits dug in the earthen floors, where it would be charred and packed in husks to keep for months. In planting these seeds, Swaying Flower knew she was assuring the continuation of the People of the Hill.

Even at twelve, Swaying Flower knew that women and corn were one in many ways. Both sustained the tribe, both cared for the young. Several years ago, just days after Swaying Flower's mother had returned from the woods with a new baby brother, she had cut away the dried umbilical cord and soothed the sting with a soft compress of white corn powder. Her little brother was fond of cornmeal cakes with maple syrup, and often her mother would laugh and warn him that eating too many would bring on

the boogeyman Longnose. Now at five years, her brother was already practicing to become a hunter and fighting other boys with war clubs made of corn stalks presented to them by their mothers.

Every mother did these things, and perhaps some day she would, too. Perhaps one day, Swaying Flower thought, she would go to the longhouse of the man her mother chose for her and offer him a loaf of corn bread. Perhaps he would then come to her longhouse and return the gift, giving a bead necklace as a token of his affection. There might even come a day when Swaying Flower would scrub her own children with dried corn cobs when they got covered with dust and sweat and bear grease. Maybe she would put corn cob rings on their fingers to ward off nosebleeds, and feed them a purifying lye of corn ashes to rid them of worms.

Yes, her work was difficult, but a woman was rewarded for her contributions to the tribe. The women in the Seneca tribe owned nearly everything: the longhouses, the tools, the very corn fields themselves. It was Faith Keepers, many who were women, who made the decisions. They arranged marriages, settled arguments and decided when the tribe should go to war. Swaying Flower's grandmother as a Faithkeeper had such power that she helped choose and dismiss the leaders of the Seneca Tribe.

As she planted, Swaying Flower thought of becoming a woman and of the many other ways the tribe depended on women and on corn. Swaying Flower remembered her own girlhood--how she had played with corn husk dolls whose flowing hair was made from the cob silk. Now she often made such dolls for the younger children. She also wove corn husk mats and latticeworks to separate the family compartments in her grandmother's longhouse. Corn even brought restful sleep to the tribe, for many people lay down each night on mattresses and pillows of corn husks. All this and more, thought Swaying Flower, would come from the kernels she was planting.

Swaying Flower wiped her hands on her deerskin skirt and stepped in soft-soled moccasins to the next planting spot. She sang a song of thanksgiving to the Three Sisters and turned the new soil with her hoe. It would not be long before she and the other women would come back to hoe again. Next time it would be to pick weeds around the new green corn shoots, bean sprouts and young squash plants poking from the earth. Soon she would be able to look out from the village and see corn fields. They would stretch far beyond the river. Eventually, they would grow so tall she would have to be lifted on to someone's shoulders to see over the corn tassels.

Then would come the time for harvest, when the women and men would return to the fields with large baskets on their backs, to take the Three Sisters home with them. She thought of the burden strap of slippery elm bark cord that would be pressing across her chest or forehead when the basket was full. It would be heavy as she trod back to the longhouse with the Sisters. Then Swaying Flower, with her mother and the other women of the tribe, would braid the corn husks together and hang the ears of corn to dry inside the longhouse. Other ears would be shelled and buried in baskets or bark-lined pits, or stored in elevated cribs. Harvest would be an important time with much work -so much that the whole village helped.

Swaying Flower often thought about what it was to be a woman among the Seneca. It was an important role. The elders said that a woman's childbearing powers passed to the corn and made it produce young of its own. They also said that the women and the Three Sisters were as one--the life-sustainers of the tribe.

In many ways, corn was the center of life. It would be expressed in the ongoing spirit of the tribe. It would flow through their thanksgiving ceremonies: the Green Corn Ceremony, the Harvest Festival, the Midwinter Ceremony marking the beginning of the Seneca new year and, finally,the Corn Planting Festival, when the juneberry tree was in blossom. At these times the entire tribe would gather to give thanks to the whole family of spirit forces. Ears of sacred white corn would be carried by the women as they sang and danced in joy and thanksgiving to the Creator.

Suddenly Swaying Flower was lifted out of her daydreaming by the excited voices of the other girls. Her grandmother had rolled a deer hide ball filled with corn husks onto the field. The girls were kicking at it, trying to keep it away from each other. This was one of Swaying Flower's favorite games, and she raced to join them for this welcome break in the planting.

("Planting Corn With Swaying Flower," written by Brandt Morgan, adapted by Sherry Mathers)

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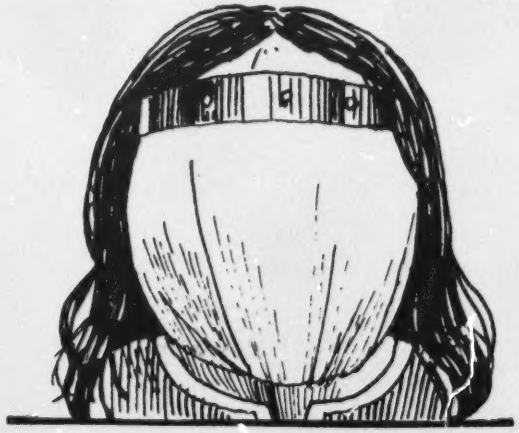


STORY OF THE CORN HUSK DOLL

This legend is told by Mrs. Snow, a talented Seneca craftswoman.

Many, many years ago, the corn, one of the Three Sisters, wanted to make something different. She made the moccasin and the salt boxes, the mats, and the face. She wanted to do something different so the Great Spirit gave her permission. So she made the little people out of corn husk and they were to roam the earth so that they would bring brotherhood and contentment to the Iroquois tribe. But she made one that was very, very beautiful. This beautiful corn person, you might call her, went into the woods and saw herself in a pool. She saw how beautiful she was and she became very vain and naughty. That began to make the people very unhappy and so the Great Spirit decided that wasn't what she was to do. She didn't pay attention to his warning, so the last time the messenger came and told her that she was going to have her punishment. Her punishment would be that she'd have no face, she would not converse with the Senecas or the birds or the animals. She'd roam the earth forever, looking for something to do to gain her face back again. So that's why we don't put any faces on the husk dolls.

WHY CORN HUSK DOLLS HAVE NO FACES

It is said that in the old days the unmarried Seneca men lived in a separate Longhouse. One of the strict rules of their life was not to have any women inside the Longhouse.

Well, it happened that one night a young man awoke to see what appeared to be a young woman walking through the Longhouse. He told everyone the next day, but no one believed him.

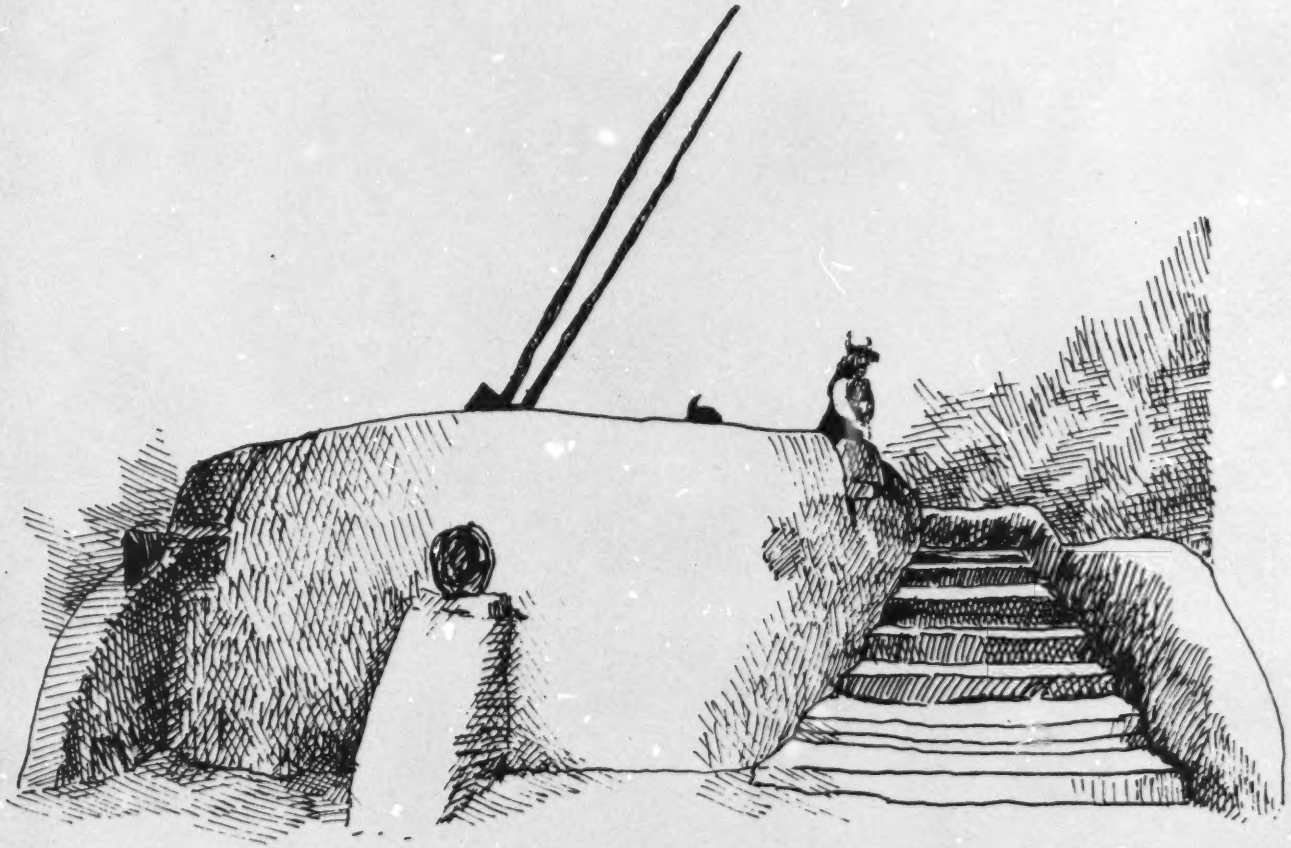
A few nights later, the same young man saw the woman again and this time he yelled and woke the rest of the men. All the young men saw her and ran after her, but she ran off before they could reach her.

They set a trap for her for the next few nights. Each young man took turns pretending to sleep and keeping watch for the young woman. Finally, she came and the young man shouted and all the other men blocked all the exits. They rushed toward the young woman. She struggled with them until dawn. As the light of day increased, she became smaller and weaker, until finally, she became a corn husk doll with a face.

The young men took her to the elders of the Longhouse. The oldest man held the doll in his hands and he shook it back and forth. As he did this, he said, "Someone of our people here on Earth has put this face on this doll. This is *not* to be! Our Creator is the *only* one who can put a face on these dolls!"

This is why the Corn Husk dolls have no faces.

(The Seneca cornhusk stories and related information are used by permission from Keeper Of The Western Door, Teacher's Manual. Seneca Iroquois National Museum, Salamanca, New York, 1980.)



Ceremonies

CEREMONIES

The Pawnee, Seneca, Hopi and many other tribes have ceremonies in thankfulness and honor of corn and other food.

A SENECA CORN THANKSGIVING

Gwa! Gwa! Gwa!

Now the time has come!
Hear us, Lord of the Sky!
We are here to speak the truth,
for you do not hear lies,
We are your children, Lord of the Sky.

Now begins the Gayant' gogwus
This sacred fire and sacred tobacco
And through this smoke
We offer our prayers
We are your children, Lord of the Sky.

Now, in the beginning of all things
You provided that we inherit your creation
You said: I shall make the earth
on which the people shall live
And they shall look to the earth as their mother
And they shall say "It is she who supports us."
You said that we should always be thankful
For our earth and for each other
So it is that we are gathered here
We are your children, Lord of the Sky.

Now again the smoke rises
And again we offer prayers
You said that food should be placed beside us
An it should be ours in exchange for our labor.
You thought that ours should be a world
where green grass of many kinds should grow
You said that some should be medicines
And that one should be Ona'o
the sacred food, our sister corn
You gave to her two clinging sisters
beautiful Oa'geka, our sister beans
and bountiful Nyo'sowane, our sister squash
The three sacred sisters; they who sustain us.

This is what you thought, Lord of the Sky.
Thus did you think to provide for us
And you ordered that when the warm season comes,
That we should see the return of life
And remember you, and be thankful,
and gather here by the sacred fire.
So now again the smoke arises
We the people offer our prayers
We speak to you through the rising smoke
We are thankful, Lord of the Sky.

(Liberally translated)
Chuck Larsen, Seneca

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Many of these ceremonies are centered around songs, dances, chants, and prayers to the Creator asking for rain and abundant crops.

Acoma Pueblo chant

There in the west
is the home of the raingods,
There in the west
is their water pool,
In the middle of the water pool
is the spruce tree
that they use as a ladder,
Up from the water the raingods
draw the crops which give us life,
East from there, on the place
where we dance, they lay the crops,
Then up from that place the people
receive crops and life.

Sacred corn in the forms of ears, kernels, meal, flour and pollen are often used in many special ceremonies.

From the Zuni people

They shall dance for the increase
and strength of the corn-seed,
of each grain, making many,
Each grain that ye nourish
with new soil and water.

Most of these ceremonies are very complex and involved and some are secret. If you wish to know more about the ones that have been written about there are other books you can read. You can learn about Seneca ceremonies and lifestyles by reading *Parker On the Iroquois*, by William Fenton, Syracuse University Press, New York, 1968. Arthur C. Parker was a Seneca anthropologist and he also wrote several books on the Iroquois people. Gene Weltfish writes about Pawnee ceremonies and ways of living in her book, *The Lost Universe*, Basic Books Inc., New York, 1965. Many Hopi people prefer not to share information about their ceremonies with those who do not share their language and culture and who may not understand the true meaning and sacredness of these ceremonies. We respect their wishes and suggest you look at a beautifully done book of poems and photography inspired by the Navajo and Pueblo Indians of the Southwest, *Mother Earth Father Sky*, by Marcia Keegan, Grossman Publishers, New York, 1974.

CONCLUSION

It's hard to imagine Seneca, Pawnee and Hopi cultures without corn. The survival of these people's *unique* lifestyles and the survival of their corn were *intertwined.* They depended on corn for food and their corn depended on them. The corn could grow only if it were planted. Through time and in many environments, humans and corn have been constant companions.

What made corn so useful and important to these people? And what was it about these people and their cultures that allowed them to discover and develop the highest *potentials* of corn to fit their lifestyles? The answers lie in the combined qualities of corn and human cultures, and their abilities to change through the centuries.

Natural *variation* in corn has enabled it to adapt to many different *environments.* For example, Hopi corn is different from Seneca corn. One type of Seneca corn grows in fertile lands, cleared of trees, next to streams and rivers. It is tall, often over 6 feet high, with long ears of white corn. Hopi corn, often grows only 3-4 feet tall with short blue ears of corn, grows in desert lands where there is not much water. Indian farmers selected seed ears from plants that did well in their areas. So corn changed and adapted to various environments. Regardless of how varied the types of corn were, they all shared the basic requirements for sun, water, and soil nutrients.

To satisfy these requirements, Indians assisted the corn plants. They controlled or changed the places where their corn grew so that these environments would be improved and their crops would be more successful.

For example, the tribes cleared the land to allow more sun to reach the corn. They removed other plants which might compete for soil nutrients and water. What other ways did these tribes change or control parts of the environment to favor the growth of corn?

Just as corn adapted or changed through human selection, tools and utensils were adapted to fit the qualities of corn. One example is the husking pin which was created to help in the corn harvest. This pin was used to tear away the husk covering the ears of corn. Dried corn can be stored for a long time, but it is very hard when it is dried. So different types of mortars and pestles were developed to break up the corn into more usable forms. Digging sticks, planting and harvesting baskets, storage structures and recipes are more examples of things that were partially determined by the characteristics of the corn.

The storage of corn and other foods made it possible for people to live in environments which were not suitable for growing crops all year around. With stored corn it was possible to insure that some food would be available during the non-growing season and for emergencies so that the whole tribe would not starve if fire, war, floods or

droughts disturbed the normal rhythms of life. Since corn could be grown in such large quantities, dried and stored, more permanent settlements became possible. It wasn't necessary to always be on the move hunting and gathering. Yet, it was still possible to hunt and gather as needed or desired. The three tribes we have studied showed considerable differences in the amount of hunting, gathering, and moving they did.

When comparing the mobility of the 3 tribes, the Hopi are the least mobile. That is, their villages are the most permanent. Their pueblos are made of stone, a very enduring building material. Some of today's Hopi live in the same pueblo villages their ancestors did thousands of years ago. Game is scarce in Hopiland because there is little water and forage for animals. This makes the Hopi extremely dependent on their corn and other crops.

The Pawnee are the most mobile of the three tribes. They had permanent villages which they returned to at planting and harvest time. But most of the year they traveled in search of buffalo and other game. Corn was very important to the Pawnee because it was a dependable source of food. It enabled them to survive times of harsh weather and poor hunting. But the buffalo was their *mainstay*.

The Seneca fall in the middle of the line on all three elements. They built their villages along the rivers in forested land. Game was abundant and much meat was eaten as well as fish. The soil was rich and there was plenty of river water and rainfall. The crops grew well, especially corn. The Seneca stayed in their villages for many years until the firewood and game became scarce and the fields wore out. Then it was time to move on-- up or down the river and establish new longhouse villages.

By understanding the role of corn in these three Native cultures, we have gained some *insights* into the lives of these Native Americans before the introduction of modern *technology*. Indian agricultural accomplishments and technology were impressive long before the introduction of these new methods. The *perceptual* and *observational* skills necessary to understand cross-pollination were necessary to maintain pure corn strains and to develop new varieties of corn.

All of these cultures had to perceive patterns and laws in nature and to work with them. Many of their day to day decisions were based upon an understanding of the natural world. What natural signs did the Seneca and Pawnee use to tell when to plant or harvest? Why might these signs work better than dates marked in advance on a calendar?

Much of the work associated with growing and preparing corn was done in the spirit of social interaction and friendliness. This helped to preserve family and tribal unity which is as important to survival as corn. Work and play were not necessarily separate, but were balanced, so that both physical and cultural survival were favored. And indeed, these tribes survive today and with them a rich heritage of culture which includes corn; still it is a companion and giver of life.

The story of corn is also the story of people. The corn we have today came from centuries of interaction between Native Americans and corn. This historical relationship between people and corn should remind us of our own connection to nature. Perhaps that connection was more easily seen and understood in the tradition of the Seneca, Pawnee and Hopi. But it is no less real for us today. The laws of nature apply to the corn plant and to all members of all cultures, past and present.

RECIPES FROM THE SENECA, PAWNEE AND HOPI TRIBES

We've learned quite a bit about how the Seneca, Pawnee and Hopi tribes raise and prepare corn. In this section we'll find traditional recipes, some that use unusual ingredients or cooking methods, as well as authentic recipes you can easily fix in your own kitchen.

Before you try the recipes, there are a few things we should understand about Indian ways of cooking.

1. Many Indian people prepare dishes using a pinch of this and a palm full of that. They consider cooking an art that cannot be restricted by measuring cups. A few of the recipes you will see here may have little information about exact measurements. The amounts of ingredients will vary depending on how many people are eating and what is on hand in the kitchen. To give us an idea of the way traditional Indian people feel about their food, let's read the following dialogue from *Pueblo and Navajo Cookery*, by Marcia Keegan. This conversation is between Agnes Dill of Isletta Pueblo, Indian woman leader, and Paul Enciso, Taos Pueblo & Apache, artist and craftsman.

PAUL: "Anciently and traditionally, what is important to the Pueblos is the sacredness of the food which they eat. So the food must be carefully prepared and washed, and a lot of care goes into the making. Because of the sacredness of the food itself, cooking is just like handling any craft. If you're making a kachina doll, or any kind of thing like this--moccasin making, or pottery--you never measure anything. An in the same way, you just have a certain kind of feel that you get even for food. And when you prepare it, you just put in as much as you feel is right. And I know my grandmother used to say, 'If you're doing the right things, if you have that spark of faith in you,'---and when I'm speaking of faith, I'm speaking of everything that surrounds the life of the person---'...because of that, you can never make a mistake.' And then you put in just so much off the palm of your hand, and that's enough. That's right. And you don't need another kind of measurement."

AGNES: "It depends on how much you're making, how much you're cooking. If you're cooking for a small family, then you say, well, this is about right. You use a lot more, and you just measure in your hand to see how much---say if you're making a big potful of soup, maybe two gallons or three gallons. And you put a big pinch of salt in the palm of your hand---the Indians always used the ground salt, their own Indian salt from the salt lakes, and they used to grind it. And a lot of times they would just take a pinch and put it in. Preparing food is like a craft, like painting a picture, or making a pot. And corn is very sacred food, because in the legends, when the corn finally comes up, the corn becomes a man. Corn comes from the earth---it's a thing that's been given to us by the Great Spirit. So the corn is used in sacred ceremonies and is universal throughout the whole Indian Nation."

(From Pueblo and Navajo Cookery *by Marcia Keegan. Copyright* ©1977 by Marcia Keegan. *Reprinted by permission of Morgan and Morgan, publishers, Dobbs Ferry, New York.)*

2. Most of the Plains Indians, including the Pawnee tribe, traditionally cook with very little spices---a little salt and pepper perhaps and occasionally some wild onions. But most of their foods are the flavors of corn, squash, beans, and meat.

3. As you've learned, corn has to be processed in some way to preserve it. It may be roasted, dried, or made into hominy. Then it can be ground into flour or used in recipes many months after it has been picked. We'll learn how we can grind flour, roast corn, and make hominy.

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4. Some of the recipes will use unique ingredients like blue corn flour or meal, dried corn and special cooking ashes made from wood.

"Blue Cornmeal—the pulverized kernels of a variety of corn that is blue in color. Commercially ground white or yellow cornmeal can be substituted, but there will be a change in color and flavor, and the authenticity of the original will certainly be challenged. Commercially ground cornmeal should be further pulverized in a blender or food mill when corn flour or finely ground cornmeal is called for."

"Culinary Ashes—the charred remains of certain plants. Hopis prefer to use the four-winged, saltbush (chamisa) because of its ability to color foods blue, a color that is religiously significant. Culinary ashes can be omitted from a recipe without noticeable change in taste but with a loss in mineral content. An equivalent amount of water should be substituted for the ash water that is omitted."

(Quotes from Juanita Tiger Kavena's Hopi Cookery. Copyright © 1980, used by permission of the University of Arizona Press.)

CORN PREPARATION METHODS

MAKING BLUE CORN FLOUR
HOPI

This will work with other kinds of dried corn too.

Shell dried blue corn.

Wash corn until the water runs clear.

Coarsely grind corn in a hand-powered corn mill.

Put ground corn in a shallow pan and bake at 350° F until the corn puffs and smells like popcorn—about twenty minutes.

Remove corn from pan and cool.

Grind puffed corn on grinding stones or in a food mill until it is as fine as flour.

Store cornmeal in a covered container in a cool place.

Blue corn flour is available commercially as harinella, but this product is a mixture of blue and white cornmeals so it doesn't have as strong a flavor and color as the pure blue cornmeal. (HC)

ROASTED SENECA CORN

Seneca cooks roast corn outside over hot coals. To do this they remove the tough outer husk and silk from the ears they will roast. Then they tie the open end of the ear and dip them in cold water. The ears are then placed over coals to cook. It is important to turn the ears several times while roasting. These ears cook from the hot coals heat and they are also steamed by the water they were dipped in.

DRIED CORN
('o' goenh 'saah') by Miriam Lee
SENECA

12 ears white corn in milky stage

Scrape corn with sharp knife three times. First scrape corn just to break off the kernels. Second scrape remainder of corn halfway. Third scrape rest of kernels off the cob. Then use potato masher and mash all kernels until milk comes out. Take loaf pan which is about 1 1/2" deep, grease and put in all corn that has been mashed and bake in oven until all kernels are golden brown. Use low heat and bake approximately 45 minutes. When kernels are brown, let cool for about 15 minutes, then cut up and store.

HOMINY

Hominy is corn kernels that have been processed in a special way to remove the hulls or skins that surround each kernel of corn. The corn is cooked in a solution of wood ash and water. This makes the kernels expand and burst their hulls. Next the corn is washed thoroughly several times to remove the hulls and ash. Finally the corn is spread out to completely dry. The following recipes are examples of Hopi and Pawnee methods of making hominy. A similar method is used by the Seneca when making corn bread and hulled corn soup.

PAWNEE HOMINY

1 quart of sifted wood ashes
2 gallons of water
dried corn kernels (unhulled)

Mix wood ashes and water together thoroughly. Add corn kernels. Boil for 1 hour and 15 minutes. Take out immediately and wash thoroughly in several waters to remove hulls. Spread out to dry. (FRF)

HOPI HOMINY

2 cups shelled, dried, white or speckled corn
10 cups water
1 cup chamisa or other cooking ash

Put corn and water in an enamel saucepan, cover, and bring to a boil.
When water boils, stir in the cooking ash. (The corn will turn yellow-orange.)
Cover and simmer corn until hulls become loose and corn turns white again. Stir occasionally and add water as needed.
Drain corn in a colander and rinse under cold running water, removing hulls with your fingers.
The hominy can be dried or pressure canned for use at a later date, or can be patted dry and frozen in suitable containers.

For more rapid processing of the hominy, larger amounts of ashes can be used. Regardless of amount of ashes, however, the hominy must be processed in an enamel pot, as the ashes react with metal utensils. (HC)

RECIPES USING SPECIALIZED INGREDIENTS OR COOKING METHODS

HOPI FINGER BREAD

(Serves six) (Huzusuki)

1 3/4 cups blue cornmeal, ground medium fine
2 cups water

Bring water to a boil, then reduce heat to low. Gradually add cornmeal to boiling water, stirring constantly. Stir until all cornmeal is mixed in. (This makes a very stiff dough.) Spoon bread out onto a plate and serve.

Finger bread, as the name implies, is eaten with the fingers. Each person breaks off a piece, using the thumb and first finger to hold it, and butters it (or not) before eating. Finger Bread is served often, especially with roasted meats and stews, and leftover bread is sliced and served for breakfast the next morning. Older Hopi women stirred the thick dough with a stirring stick, but a cooking fork dissolves the lumps more quickly.

Mrs. Remalda Lomayeatewa
Second Mesa, Arizona (HC)

CORN BREAD
(go-gal-denh-doenh')
by Hazel D. John (Seneca)

3 quarts white corn
1# pinto or kidney beans
3 pints sifted ashes (preferably poplar)

Cooking utensils needed:

cast iron kettle (5 quart)
aluminum kettle (5 quart)
wooden paddle
corn washing basket
sifter for ashes
sifter for flour
dipper
saucepan (2 quart capacity)
dishpans (2)

Fill cast iron kettle 3/4 full of water and put on to boil. When water boils, put in corn and sifted ashes. Stir with paddle until well mixed. Boil for 10-15 minutes.

Clean beans and put on to simmer in saucepan for approximately 1 hour.

Test corn by putting in cold water and see if outer hull comes off. If it does, drain corn into sifter basket and rinse in tepid water until clear. Use towel to absorb water in corn. Grind corn in food chopper, finest grind, sift 2 or 3 times.

Fill aluminum kettle 3/4 full, put on to boil.

Drain beans when cooked, rinse twice. Pour into sifted corn flour. Mix with the paddle. Add boiling water until well mixed (approximately 4 dippers full). Too much water it will get mushy, too little water dough will get hard. Fill dish pan with cold water. Hands should be clean, dip hands in cold water; then pat into a smooth wheel about 2" thick, dipping hands in cold water as often as necessary to keep hands from sticking to the dough.

Place wheel on wooden paddle and put into boiling water and cook approximately 50 minutes. Check every few minutes and separate wheels (which are standing) so they won't stick. Wheels are done when they float and the water in which wheels were boiled in can be drunk.

HOPI HUSH PUPPIES

(Serves Six)

2 cups blue cornmeal
1 teaspoon salt
2 teaspoons baking powder
2 beaten eggs
1 1/4 cups milk
1 small onion, chopped fine
shortening

Measure cornmeal, salt, and baking powder into a mixing bowl.

Stir milk into beaten eggs and gradually add to cornmeal mixture.

Add chopped onions to cornmeal and mix well.

Drop by teaspoonfuls into 1 1/2 inches of very hot shortening.

Fry hush puppies until golden brown, turning to brown all sides.

Hush puppies are served with stews or beans instead of bread. Although made of corn, they are corn in a different form and add variety to meals. Yellow cornmeal can be substituted for blue, but does not have as delicate a flavor. (HC)

SOMEVIKI

(Serves Eight)

5 rounded tablespoons chamisa or other cooking ash
1 1/2 cups boiling water
1 cup finely ground blue cornmeal
3/4 cup granulated sugar
4 cups boiling water
Also:
30 corn husks that have been soaked in very hot water for ten to fifteen minutes

Mix ashes with 1 1/2 cups of boiling water and set aside.

Measure cornmeal and sugar into a bowl.

Add 4 cups of boiling water to dry ingredients, stirring constantly.

Pour a cup or more of ash water through a strainer into dough, until dough is distinctly blue in color.

Put 2 heaping tablespoons of dough on each corn husk and fold husks around dough, sides first and then ends. Secure with strings made from corn husks.

Drop husk-wrapped dough into a large pot of boiling water. Cover and simmer for twenty to twenty-five minutes, and drain.

Someviki is a sweet cornbread that is served hot, usually with beans or stew. The husks are carefully unwrapped from around the bread and discarded. Most people eat several pieces with a meal.

Mrs. Olive Dennis
Oraibi, Arizona (HC)

PUDDINGS

OPP

(from Helena Hood, Pawnee)

Roast blue corn on stove top or in pit, remove kernels and dry thoroughly

grind corn until fine

Ingredients:
4 cups boiling water

1 1/2 cups blue corn meal (finely ground)

3/4 cup nuts (preferably black walnuts but pecans will do) - grind the nuts

1/2 cup sugar

Mix blue corn meal into boiling water. Use a wire whip or wisk to stir until most of the lumps have dissolved.

Add sugar and continue stirring so the sugar will dissolve.

Add ground nuts and mix well.

Cook 30 minutes.

This recipe will make 10 1/2 cup servings of delicious, nutritious Opp. (FRF)

SWEET CORN PUDDING (Pikami) HOPI

(Serves Fifty)

2 cups ground sprouted wheat

30 cups finely ground white or yellow cornmeal

16 cups boiling water

4 cups (approximately) sugar or honey, if desired

Sprout 6 cups of wheat until the shoots are 1 to 1 1/2 inches tall.

Spread the sprouted wheat out to dry and grind it fine. This should yield approximately 2 cups of ground sprouted wheat. (Extra wheat can be stored in a jar for later use.)

Mix 2 cups of ground sprouted wheat with 30 cups of cornmeal.

Add approximately 16 cups of boiling water to make a heavy batter, and stir with a stirring stick until smooth.

Add sugar to taste and mix well.

Line a 10-quart container with dried corn husks.

Fill the container with pudding mixture.

Cover pudding with wet corn husks and aluminum foil, then put the lid on the container.

Lower pudding into preheated pudding pit and cover with pit cover. Seal the pit with wet mud.

Bake eight to ten hours or overnight in the pit of hot coals.

Early the next morning, open the pit carefully and stir the pudding.

Dip pudding out and serve warm with stew for breakfast.

A smaller amount of pudding can be made with 4 cups cornmeal, 1/4 cup ground sprouted wheat, 2 cups boiling water, and 1/2 cup sugar, but it is prepared and cooked in the same manner.

Stirring sticks are made from greasewood. Some are single sticks the size of a broom handle and others are made of four slender sticks (about 3/8 of an inch in diameter) tied together.

Mrs. Phyllis Adams
Polacca, Arizona
(HC)

SPOONS FROM CORN HUSKS

Some early Hopi families had spoons made from gourds, but many did not. On dance and feast days, when there were not enough spoons for all the visitors, the ingenious Hopi would take the moist corn husks from the someviki, tie knots in the tips, and make useable spoons. The corn husks need to be soft and pliable in order to be twisted and tied in a knot, and, since boiled someviki is usually served with the stews and beans on feast days, the corn-husk wrappings were ideal. (HC)

SWEET CORN PUDDING (Modern Version) HOPI

5 pounds whole wheat flour
5 pounds white corn flour
5 pounds granulated sugar
10 to 14 cups boiling water

In a large pan (we keep a tub just for this purpose), combine whole wheat flour, corn flour, and sugar.

Add boiling water to the dry ingredients, a little at a time, stirring well to moisten all ingredients and make a thick pudding. (Three women, usually the in-laws, are needed to stir the pudding as it is very thick and hot.)

Test a small amount of pudding on a hot griddle. If it browns readily, the pudding is sweet enough. If not, more sugar should be added.

Prepare the cooking container (usually a 5-gallon can) by lining it with clean corn husks.

Dip a dipper into water and then into the pudding, and carefully pour the pudding into the bottom of the container. Continue to dip the dipper into water before dipping into the pudding, to help pudding slip off the dipper more easily.

When all the pudding has been put in the container, cover it with wet corn husks, aluminum foil, and a lid.

Lower the pudding into a hot pudding pit, cover it with the pit cover, and plaster it with wet mud, sealing the opening well.

Build a small fire over the pudding pit and cook the pudding overnight. (You can also cook this in a crock pot.)

Hopi or Sweet Corn Pudding is served for breakfast on feast and dance days, and at weddings and the naming party for a new baby. It is not eaten with a spoon, but by breaking small pieces off and eating them with the fingers. Leftover pudding is dried and pulverized and made into a beverage by adding hot water.

The in-laws usually "trade off" for work at Hopi weddings. If a Hopi woman has a daughter, she will help her clan relatives at their daughters' weddings. They will then return the favor when her daughter gets married. (HC)

HULLED CORN SOUP
by William Bennett (Seneca)

4 qts. dry corn kernels
1 # dry red kidney beans
3 # salt pork
1 qt. hardwood ashes

Put enough water in an old* kettle to cover the corn. Bring to a boil; add corn and ashes. Cook about 20 minutes, stirring frequently. This loosens the hulls or shells of the corn.

When the hulls slip off the kernels by working between the fingers, drain the water and rinse corn in cold water, working corn with the fingers to help remove hulls. Drain and parboil; drain, rinse, and parboil again. Repeat several times until the parboiled water looks clean and clear. (A handmade basket is traditionally used for this purpose.)

When corn is good and clean, place it in a large kettle or canner with clean water. Parboil washed beans separately until water is colored; add both water and beans to the corn mixture.

Cut salt pork into small pieces; add to the corn and beans. Be sure to use plenty of water because the corn will swell as it cooks. Cook 3 or 4 hours, or until corn is tender, stirring occasionally and adding water as needed. Makes 16 quarts of soup.

*Use enamel or cast iron, *not* aluminum or other metal because the ashes react to the metal pots.

OTHER RECIPES

BLUE MARBLES HOPI
(Serves One)

2 heaping teaspoons chamisa or other cooking ash
8 tablespoons boiling water
1/2 cup finely ground blue cornmeal
1 tablespoon sugar (if desired)

Mix the chamisa ash with 2 tablespoons of boiling water and set aside.
Measure the blue cornmeal and sugar into a bowl and stir in 5 tablespoons of boiling water.
Pour 2 tablespoons or more of the ash-water mixture through a strainer into the cornmeal, until the dough is distinctly blue in color.
Shape dough into balls the size of marbles.
Drop balls into 2 cups of boiling water and cook for ten minutes.

Blue marbles are served in a bowl in their cooking water along with dried onions, fresh or dried chiles, fried salt pork, or strips of beef. This is usually a breakfast dish and is a complete meal.

Mrs. Phyllis Adams
Polacca, Arizona (HC)

PIKI
(Juanita Tiger Kavena's words)

Piki is a tissue-thin cornbread that is unique to the Hopi culture. It is served as crackers or wafers are served, often with onions and greens and a small dish of salt water on the side to dip the piki in. It is also served as a snack with tea or coffee, or carried for lunch when members of the family are working away from home.

Piki comes in different flavors and colors. Chile piki is particularly good with bean sprouts and stews, for example, and piki made from red or yellow corn is strung and given to children and friends at the summer Kachina dances. There is also a fresh corn piki, but it is seldom made or served.

Hopi women and girls make piki, as they have for centuries, on specially prepared cooking stones called piki stones. These stones must be a certain size and shape, and must also be very smooth. They take a long time to prepare, and most piki stones are heirlooms that have been handed down from mother to daughter for generations.

Piki-making is a hot demanding task and I didn't learn how until the summer of 1978, when a lady from New Oraibi invited me to her home for lessons. I took her up on her offer and went to her house every week to make piki. One of the first things I learned was that you must be determined to learn the art of piki-making—for it is indeed an art—as it would be very easy to give up after touching the hot stone for the first time! It was awe inspiring for me to see the piki batter sizzle right behind my unprotected hand.

But I enjoyed being in the piki house, for I found it to be a center of activity. The "moccasin grapevine" was headquartered there, and it was also a place for family counseling.

During the lessons, my teacher built the fire under her piki stone, for she knows her stone just as any good homemaker knows her cooking range. But I usually minded the ingredients, while she continually encouraged me. Piki-making cannot be learned in one lesson but is a skill that comes with practice. (HC)

MAKING PIKI HOPI

3 tablespoons chamisa ash
1/2 cup cold water
6 cups finely ground cornmeal
6 cups finely ground cornmeal
8 cups boiling water
6 to 8 cups cold water

Mix chamisa ash with 1/2 cup of cold water and set aside.

Put cornmeal in piki bowl, pushing a third of the meal to the back of the bowl.

Pour 4 cups of boiling water into the larger amount of cornmeal and stir with a wooden spoon or stirring stick until well blended. Add the rest of the boiling water and continue to mix until the larger amount of cornmeal is moistened. (The dough should be heavy and stiff.)

Strain ashwater through broom straws or a sieve lined with cheesecloth into the dough, a little at a time, until dough turns blue. (Too little ash water is better than too much as you can always add more. If you do use too much, then add another cup of meal from the remaining cornmeal in the bowl and another cup of water.)

When dough is cool enough to handle, knead it by hand until the lumps are dissolved. Add extra meal, a little at a time, until all the cornmeal in the bowl is blended in.

Set dough aside and build a fire under the piki stone.

While the stone is heating, begin adding the cold water to the dough, a little at a time, and continue working dough with your hands. Add enough water to make a smooth, thin batter that is the consistency of crepe batter or thinner. The thinner the batter, the easier it is to work with, but some Hopi women prefer thicker batters. As you are making the piki, it may be necessary to add more cold water, since the batter has a tendency to thicken.

Wipe off the hot stone and oil it with either bone marrow or cooked brains, which will make the stone as slick as glass. The stone may require additional oiling after cooking two or three sheets in order to prevent sticking.

Dip your hand in the batter and hold a small amount in the curve of your fingers. Spread batter across the stone (touching the stone lightly with your fingers), moving from right to left and back again, and removing any lumpy deposits. Dip fingers into batter again to cool them—one has to work fast to avoid burning the fingers—and continue spreading batter across the stone, overlapping the previous strip, until stone is completely covered.

When piki is done, the edges will separate from the stone. With both hands, gently lift it from the stone and place it on the piki tray. (The first piece is "fed to the fire." Also at this time, the stone is asked "not to be lazy and to work well" for the cook.)

Spread more batter on the stone and, while it is cooking, gently lift the sheet of piki from the piki tray back onto the stone and let it sit for a minute or two to soften. Then fold the two ends of the piki a quarter of the way toward the center and gently roll the piki away from you, as you would a cinnamon roll. Place rolled piki back on tray.

Lift the sheet still on the stone to the piki tray and spread the stone with more batter. Continue to bake and roll the piki until all batter is used.

If a sheet of piki tears when you are removing it from the stone, it may be put back into the bowl, where it will dissolve into the batter, to be used again. Or, if children are in the area, they will be glad to sample your failures! (HC)

THUMBPRINT BREAD (Kolatquvi) HOPI

(Serves Six)

2 teaspoons chamisa ash
1/4 cup water
2 cups coarse cornmeal
1 cup boiling water
1 tablespoon sugar

Mix ashes and 1/4 cup water and set aside.

Measure cornmeal and sugar into mixing bowl.

Add 1 cup boiling water to cornmeal mixture and stir with a wooden spoon.

Strain ash water into cornmeal and stir until mixture turns blue.

Shape heaping tablespoons of dough into 1 1/2 inch balls. Indent the center of each ball with your thumb.

Put the thumbprint bread in a colander and set it in a pot of boiling water.

Cover pot and simmer bread for approximately eight minutes.

Some Hopi women divide the cornmeal mixture in half and add the boiling water to one side only, working the remainder of the cornmeal into the dough with their hands. This gives them more control when they add ash water to color the dough. Before colanders were available, Hopi housewives used dried peach twigs to make piki trays and other similar cooking utensils. (HC)

HOMINY AND PORK SHANKS from Mary Red Eagle, Osage Tribe PAWNEE

4 cups hominy

2 fresh pork shanks

Enough water to cover the meat

Boil pork shanks in water for about 30 minutes. Add hominy and cook until thickened.

PARCHED CORNMEAL MUSH (os-hoenh-wanh) by Hazel D. John SENECA

2 qts. white corn

10-12 pieces of salt pork

sugar

Slice pork and fry about 10 pieces. Brown 2 quarts white corn in iron skillet, low heat (just so corn doesn't burn). Grind corn real fine by sifting two or three times. Take large kettle, fill half full of hot water and put on to boil. Add sugar to water (sweeten to individual taste), mix sifted flour with cold water until creamy. Add mixture slowly to boiled water, stirring to keep smooth and not lumpy. Cook until done, approximately 10-15 minutes. Pour cooked pork slices and grease over mush. Stir and serve.

WHOLE CORN AND BEAN SPROUTS (Hazruquive) HOPI

(Serves Eight to Ten)

6 ears dried white or speckled corn, broken into 3- or 4-inch lengths

1 bunch bean sprouts

1 pound salt pork (or 1/2 cup pork drippings)

1/4 cup salt

Wash corn well to remove dust.

Put corn in a saucepan, cover it with water, and add salt and salt pork or drippings.

Cover saucepan and simmer corn until tender, usually overnight. (A crock pot is ideal for this.)

The next morning, wash bean sprouts until water runs clear, cut them in 1 1/2 inch lengths, and add to corn.

Cover and continue simmering until sprouts are tender and the kernels on the cobs pop—about three hours. Serve with plain or chile piki.

This dish is a real specialty as it is prepared only once a year, during the Powamu Ceremony in late winter that celebrates the changing of the seasons. The corn cobs cooked with the other ingredients give the dish a deliciously sweet taste. (HC)

OTHER RECIPES THAT DO NOT USE SPECIALIZED INGREDIENTS

BEAN BREAD from Lizzie Byers PAWNEE

3 cups white corn meal

1/2 tsp. salt

2 Tbsp. bacon drippings

1 cup cooked brown beans (save the water the beans are cooked in)

Put corn meal in a bowl and add salt. Add enough bean cooking water to make a thick batter. Add beans and mix. Add bacon drippings and mix. Pour into a well greased pan. Make the top smooth. Bake in a hot oven until done. (FRF)

CAKES

CORN CAKES from Helena Hood

(This is a favorite treat that Helena's mother used to cook over a pit.)

Corn just fresh from the fields

A little flour to bind cakes together

Water

Grate corn from the cobs. Mix with water and a little flour. Form into *thin* cakes and bake until they are done. (Helena says she'd put a little salt on her cake and eat it. "There's nothing like it!")

SOUPS

CORN SOUP from Helena Hood PAWNEE

1 cup white or yellow dried corn (already hulled)

Beef with marbling, chuck roast is good. (The amount of beef will vary depending on what you have on hand or how meaty you want the soup to taste.)

3 cups of water (If you want thinner soup add more water.)

Salt to taste

Put all these ingredients together and boil on a low fire for at least an hour and one half or all afternoon if you wish.

ROAST CORN SOUP ('o' nanh-dah) by Miriam Lee SENECA

12 ears white corn in milky stage

1 # salt pork (lean and fat)

1 # pinto or kidney beans

Using low heat, take corn and roast on top of range (using griddle if your stove is equipped with one) and keep rotating corn until ears are a golden brown. After the corn is roasted, take ears and put on foil covered cookie sheet until cool enough to handle. Scrape each ear once or twice with a sharp knife. Corn is ready for making soup. While corn is being roasted, fill kettle (5 qt. capacity) approximately 3/4 full with hot water and put on to boil along with salt pork which has been diced in small pieces for more thorough cooking. Beans should be sorted for culls, washed twice and parboiled for approximately 35-45 minutes. After parboiling beans, rinse well in tepid water 2 or 3 times. Corn and beans should then be put in kettle with pork and cooked for about 1 hour. (Note: Beans can also be soaked overnight to cut cooking time when preparing soup).

SUCCOTASH SENECA

Ingredients
- green corn with kernels removed
- fresh shelled beans
- enough water to cover
- salt and pepper to taste
- cubed salt pork

Mix the corn and beans and cover with water. Cook the mixture over medium heat for about a half hour. (Be sure to stir the mixture to avoid scorching.) Add pepper and salt and salt pork if desired.

USING NAKVIKLOKVU HOPI

4 cups water
1 cup dried nakviklokvu pieces
1 teaspoon salt
2 tablespoons butter or bacon drippings

Bring water to a boil in a saucepan.
Add nakviklokvu pieces, salt, and butter.
Cover and simmer for one hour, or until nakviklokvu is soft. Stir frequently as corn rolls will stick, just as corn will.
Serve as a vegetable.

Nakviklokvu can also be added to stews or a pot of beans. (HC)

FRESH CORN ROLLS (Nakviki)

6 ears fresh tender corn
1 teaspoon salt, if desired

Remove husks from corn by cutting off ends. Save larger husks and wash them.
Remove silks from corn.
Cut corn from cob, scraping as much milk from the cob as possible.
Grind corn with the fine blade of a hand meat grinder. (An electric blender can be used also, but tends to separate the starch, so it is necessary to stir the corn well.)
Add salt and mix well.
Put a tablespoon of corn mixture into a clean husk. Fold the left edge of husk over corn, then the right edge. Finally, fold the tip end up towards the center.
Stand rolls upright, open side up, in a jelly roll or similar pan.
Bake in a preheated 325°F oven for thirty minutes, or until corn mixture is solid.
Serve as corn bread with stews, soups, or roasted meat.

Nakviki is quite versatile and can be split and browned in butter or oleo to make a delicious breakfast toast. It can also be sliced crosswise and scrambled with eggs, or dried for winter use. (HC)

DRYING FRESH CORN ROLLS (Nakviklokvu)

Remove corn husks from leftover corn rolls and split them lengthwise (or slice crosswise) to ensure quick drying. Put rolls in a sifter basket and place them in a window or other sheltered, sunny spot. Turn rolls two or three times a day for even drying, and, when completely dried, store them in a tightly covered container. Nakviklokvu will keep for a year in a tightly closed container.

In the 1970s, many Hopi homes still didn't have electricity, and a few didn't have iceboxes, so drying foods for future use was very necessary. Sifter baskets were loosely-woven, shallow baskets made of yucca, that allowed plenty of air circulation. They were also used for shaking dirt from beans, seeds, etc., and for winnowing the hulls from parched corn. (HC)

GLOSSARY

ancestor - a person from whom one is descended and who usually is held in great respect.

anecdote - a short story of an interesting, amazing or biographical incident.

arroyo - a water-carved gully in an arid region, usually dry but containing a stream during the rainy season.

bedrock - solid rock that is lying under dirt and loose rock on the surface.

clan - a group united by a common characteristic like familyline, or relationship to a certain animal or place.

Clan Mother - head of clan in societies with matrilineal descent.

contour interval - the distance between contour lines indicating a rise or fall in elevation.

contour lines - the lines on a map indicating that all the land along that line is the same elevation.

corn flour - produced when corn meal is ground even finer.

corn meal - the remains of dry corn kernels after they have been ground by a mortar and pestle. Stone or steel grinders are used to produce commercially.

corn silk - female flower appearing as slender threads on the ear of corn.

Crest - a painting of a particular family or clan symbol.

crop rotation - the practice of planting different crops in a plot each year to prevent disease to improve the soil.

cross pollination - when reproductive cells from two plants unite to form new seeds.

descendants - a person who can trace their family tree from a certain ancestor.

desperation - hopelessness leading to rashness.

dry farming - special methods used in arid spaces to farm without the use of irrigation.

duma - a specialized cooking stone used by Hopi women when making piki bread.

earth lodges - the permanent home of many plains tribes. They were made of sod and tree trunks. Today the Pawnee use earth lodges for ceremonial and social gatherings.

environment - all of the social, cultural, biological and climatic influences that affect any living thing.

fertilization - the process of two germ cells uniting to form a seed.

field rotation - similar to crop rotation only on a much larger scale. One year a heavy feeding crop such as corn would be planted, then a heavy giver like beans, then a light feeder such as sweet potatoes, then the cycle begins again.

floodwater - overflow from streams and rivers. Some tribes planted crops to take advantage of water and nutrients in floodwater.

floodwater farming - crops are planted where anticipated floods will bring water and nutrients in the form of silt to a field.

genealogy - a recorded history of one's ancestry.

girdling - cutting a ring around a tree in order to stop fluids from traveling up and down the trunk in an effort to kill the tree.

habitat - the place where something is commonly found.

hominy - a process of removing hulls from dried corn by boiling corn with ashes.

hull - the hard outer covering of a seed.

husk - the outer covering of the corn cob.

insights - seeing the true nature of things.

intertwined - two or more objects wrapping themselves around each other.

Iroquois Confederacy - originally five nations later joined by the Tuscaroras, had central government with individual nations having unique statehood. U.S. constitution patterned after this confederacy.

irrigate - supplying water to the land by artificial means.

Juneberry tree - a tall shrub with bluish-red fruits that usually form in June. It is found in woody areas and is also known as service berry. The Seneca plant their corn when it is in bloom.

jugular vein - those veins on either side of the neck that return blood from the head.

kernels - the whole seed of the corn.

leggings - rawhide or cloth covering for the legs.

lifestyle - a typical way of living.

ligaments - the tough bonds of tissue connecting bones or holding up organs.

livelihood - the means of supporting oneself or of gaining subsistance.

longhouse - the traditional houses of Seneca people. Today they are used as ceremonial and community houses.

mainstay - the major food of a particular group of people.

mano - a mooth, oblong stone used by Hopi women to smash and grind corn against another rough stone called a metate.

matrilineal descent -following lines of ancestry through the female side of the family.

mesa -an isolated broad tableland having steep sides and level top.

metate -a rough slab of sandstone that Hopi women use to grind corn on.

milkweed - a plant found in arid areas which has sap that is milk-white. The Pawnee used this plant to tell when their corn crops were ready to be harvested.

mortar - a strong base in which corn is ground by a pestle.

nitrogen -a common element in the air, nitrogen is necessary for green growth, some plants fix nitrogen in the soil.

nitrogen fixing plants - all beans and peas and some other plants that have bacteria that attach themselves to their roots. These bacteria are almost pure nitrogen.

nutrients - there are three major nutrients necessary for plant growth. Nitrogen, phosphorus and potassium. In addition, many other trace elements are necessary for healthy plant growth.

observation - the act of observing something and remembering how it happened.

oral history - the entire collective recollections of a group of people containing laws, history, entertainment, education, food preparation, etc.

parfleches - a leather suitcase-like device used by many Plains tribes.

perception - the awareness of things in the environment through using the different senses.

pestle - a club-shaped tool used for grinding corn in a mortar.

phosphorus - one of the major nutrients needed for healthy root growth, disease resistance and production of good flowers, fruits and vegetables.

piki - a thin, paper-like bread, characteristic of Hopi cooking.

plateau - a usually flat area elevated above surrounding landmasses.

pollen - the germ plasm of plants that usually looks like fine dust.

pollination - the transfer of pollen from the male part of the plant to the female part.

porous - land that lets water pass through it, usually consisting of sand with little clay or organic matter.

potassium - one of the major nutrients necessary from healthy stem growth, vigorous roots and disease resistance.

potentials - anything that can be developed or becomes actual.

pueblos - a community of flat-roofed stone or adobe houses in groups usually several stories high.

reproductive cells - the part of the corn plant used to give rise to more corn plants.

sandstone - a sedimentary rock consisting usually of quartz sand.

self-pollination - when reproductive cells from one plant unite to form new seed.

sieve - a tool with mesh or fine holes in it to pass finer particles out of a mixture.

silt - fine materials in water made up of sedimentary materials.

succotash - a Seneca corn dish made from green ears of corn and fresh green beans.

surface run off - when soil is totally full of water, any more rain that falls flows off the surface.

sustains - any food that provides regular nourishment to a particular group of people.

tablelands - large flat areas, usually having steep sides and surrounded by arid regions.

tassel - the terminal male part of corn plant.

technology - the use of tools and knowledge to make any task easier.

Tirawa - the Pawnee name for the Creator or Great Spirit.

topographic maps - map showing the elevation of land above or below sea level.

travois - device used by many plains tribes to transport material when on the move. It is attached to the back of a horse and dragged on the ground.

tributaries - those smaller creeks and streams that flow into any larger river.

variation - a thing somewhat different from another of the same kind.

wikya - a Hopi tool used to break up the ground before planting.

Zea Mays - scientific name for corn.

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To appreciate the delicious, authentic tastes from the recipes, traditional ingredients should be used whenever possible. Here are some names of merchants that specialize in these unusual ingredients:

*Peter Casdos
Box 852
San Juan Pueblo, New Mexico 87566

*El Molina Mills
3060 West Valley Boulevard
Alhambra, California 91803
Telephone 213 962-7167

*Fernandez Chile Company
8267 Road 10 South
Alamosa, Colorado 81101
Telephone 303 589-6043
(Blue Corn flour, dried hominy, chicos, which is a dehydrated sweet corn traditionally roasted)

*John F. Copes, Inc.
P.O. Box 56
Rheems, Pennsylvania 17570
Telephone 717 653-8075
(Dried corn only)

*Red Corn's Indian Foods
145 East Main
Pawhuska, Oklahoma 74056
Telephone 918 287-4242
(Blue corn, blue corn flour, dried corn, dried hominy, cracked corn)

*These merchants accept mail-order requests.

These three Hopi women raise and sell blue, red, and white corn in dried forms such as flour and meal.

Marian Tewa
New Oraibi, Arizona
86039

Ada Fredricks
New Oraibi, Arizona
86039

Elsie Nahshonhoya
Polacca, Arizona
86042

Calvin Lay, a Seneca man, raises and sells Seneca white corn. His address is: Box 517, Gowanda, New York 14070. He sells 1 quart for $2.00.

The Hopi Culture Center in Oraibi, Arizona, is another possible source of information. The address is: Hopi Culture Center
Second Mesa, Arizona 86043
Telephone 602 734-2401